5-12-2023

A Pilot Online Wellness Program for Urban School Employees: An Exploratory Mixed-method Study

Marcel Benetti De Lima

ACCEPTANCE

This dissertation, A PILOT ONLINE WELLNESS PROGRAM FOR URBAN SCHOOL EMPLOYEES: AN EXPLORATORY MIXED-METHOD STUDY, by MARCEL BENETTI DE LIMA, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education & Human Development, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

_____
Rachel Gurvitch, Ed.D.
Committee Chair

_____
Deborah R. Shapiro, Ph.D.
Committee Member

_____
Halley E. M. Riley, Ph.D.
Committee Member

_____
Keith Wright, Ph.D.
Committee Member

_____
Date

_____
Jianhua (Jerry) Wu, Ph.D.
Chairperson, Department of Kinesiology and Health

_____
Paul A. Alberto, Ph.D.
Dean, College of Education & Human Development

AUTHOR'S STATEMENT

By presenting this dissertation as a partial fulfillment of the requirements for the advanced degree from Georgia State University, I agree that the library of Georgia State University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote, to copy from, or to publish this dissertation may be granted by the professor under whose direction it was written, by the College of Education & Human Development's Director of Graduate Studies, or by me. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without my written permission.

_____

Marcel Benetti de Lima

NOTICE TO BORROWERS

All dissertations deposited in the Georgia State University library must be used in accordance with the stipulations prescribed by the author in the preceding statement. The author of this dissertation is:

Marcel Benetti de Lima
Kinesiology & Health
College of Education & Human Development
Georgia State University

The director of this dissertation is:

Rachel Gurvitch, Ed,D.
Department of Kinesiology & Health
College of Education & Human Development
Georgia State University
Atlanta, GA 30303

CURRICULUM VITAE

Marcel Benetti de Lima

ADDRESS: 1901 Summit Pointe Way NE
Atlanta, GA 30329

EDUCATION:

Ph.D.	2023	Georgia State University Kinesiology & Health
Masters degree	2014	Manhattanville College Physical Education
Bachelors degree	1999	Troy University B.S. International Business

PROFESSIONAL EXPERIENCE:

2016-present	GTA & GRA Georgia State University

PRESENTATIONS AND PUBLICATIONS:

Lima, M., Hollibaugh, C., Kim, G., & Gurvitch, R., (2018) *Catchball: Wellness Program in Schools*. PETE/HETE National Conference. Salt Lake City, UT.

Lima, M., Hollibaugh, C., Kim, G., Maeng, H., & Sur, M., (2018) *EdTPA: PhD Student's Perspective*. PETE/HETE National Conference. Salt Lake City, UT.

Lima, M. Gurvitch, R., & Shapiro, D. (2018) *Supervision: Learning Community Collaboration for Supporting In-service PE/APE Teachers*. PETE/HETE National Conference. Salt Lake City, UT.

Lima, M., Kim, G., (October 2018). *Catchball in Schools: Staff wellness for all school employees*. Presented at 2018 GAHPERD Convention. Athens, Georgia.

Lima, M. Gurvitch, R., Lund, J. & Ellis, R. (2018*) Initial Data from a Physical Activity Intervention on Middle School Employees*. Michael and Terry Metzler Distinguished Lecture Series & Research Symposium. Atlanta, GA.

Lima, M., Ellis, R., Gurvitch, R., & Lund, J. (2018). *Baseline Characteristics of Middle School Employees Participating in a Workplace Physical Activity Intervention*. SEACSM. Chattanooga, TN.

Lima, M. (2017). *Be Aware of What You DO!* GAPHERD Conference. Athens, GA.

Lima, M. (2017). *What Do You Do When You Teach?* GSU – GTA Conference. Atlanta, GA.

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

2022	GAPHERD
2020	SHAPE America

A PILOT ONLINE WELLNESS PROGRAM FOR URBAN SCHOOL EMPLOYEES: AN EXPLORATORY MIXED-METHOD STUDY

by

MARCEL B. LIMA

Under the Direction of Dr. Rachel Gurvitch

ABSTRACT

Introduction: Due to idiosyncrasies to the urban environment and the teaching profession, public school professionals have potentially a higher risk of developing serious health issues, higher rates of absenteeism, and diminished productivity than some working adults in other fields. The effects of physical inactivity and continuous exposure to stress are directly linked to chronic illnesses, which, in turn, carry a high emotional and financial cost to the individual and society. School employee wellness programs can help school districts save money and increase employees' productivity by improving the wellbeing of participants and lowering the rate of absenteeism and sick presenteeism.

Purpose: The purpose of this study was to describe the development of the eHealth physical activity (PA) program and to evaluate its impact on urban school employees' barriers and motivation towards PA and their feelings about job-related stress. The PA program called Teachers Engaged, Active, and Motivated (TEAM) and this study was framed by the Health Belief Model and the Behavior Change Techniques taxonomy. The study attempted to answer the following

questions: To what extent will participation in the TEAM PA program influence urban school employees' barriers to being physically active? To what extent will participation in the TEAM PA program influence urban school employees' motivation towards physical activity? To what extent will participation in the TEAM PA program influence urban school employees' job-related stress?

Methods: This study adopted an intervention mixed-method design to analyze the data collected from participants responses to the emailed-delivered survey and during the in-depth individual interviews. The survey contained some demographic questions, the Barriers to Being Active Quiz (BBAQ), the Motives for Physical Activity Measure-Revised (MPAM-R), and the Effort-Reward Imbalance Questionnaire (ERIQ). There were post-program semi-structured interviews with program participants. The PI used a deductive and inductive thematic analysis approach to define themes among participants' responses to questions extracted from the subscales of each questionnaire.

Results: Employees from one school (n=100) received the recruiting email. Twenty-three employees completed the pre-survey, and, after the 6-week program, 15 employees completed the post-survey concluding the quantitative part of the study. The paired t-test analysis was statistically significant for the BBAQ measure (p=.038), non-significant for the MPAM-R measure (p=.086), and non-significant for the ER ratio (p=.204). Eleven participants were interviewed for the qualitative part of the study, and responses were analyzed through deductive and inductive approaches.

INDEX WORDS: wellness programs, urban school employee, mixed methods, health belief model, behavior change technique taxonomy

A PILOT WELLNESS PROGRAM FOR URBAN SCHOOL EMPLOYEES: AN EXPLORATORY MIXED-METHOD STUDY

by

MARCEL B. LIMA

A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Philosophy

in

Physical Education Teacher Education

in

Department of Kinesiology & Health

in

the College of Education & Human Development

Georgia State University

Atlanta, GA

2023

DEDICATION

First, I would like to dedicate this accomplishment to my mother and thank her for all she did for me. I know one day I will be able to hug you again and tell you how important you have been to me in making this far and becoming the person I am. I love you.

Secondly, I want to thank my father, my stepmom, my brother, my son, and all my family for the support offered to me in crucial moments. You all have always been the force that provided the extra "push" during this journey and, I know I don't say it enough, I am very thankful and love you.

Lastly, to the friends outside of the university that have come and gone and to those who have stayed, you are a part of this too. It was a long and challenging adventure, but the various interactions and the memories we have created provided me the escape I needed to recharge my sanity and continue the journey till I finished it.

ACKNOWLEDGMENTS

To the Dissertation Committee: I am extremely thankful for the guidance and mentorship of this committee. You all have been very patient with me. You have challenged me and showed me how to be better at something I thought I could not do. Especially, Dr. Gurvitch, thank you for taking on this challenge with me and being on the front line defending my ideas while providing critical feedback on how to bring them to reality.

To my Cohort of Doctoral Students: We had wonderful and helpful conversations about each other's plans and ideas. We supported one another through all milestones during the time in our PETE program. We became friends and a family that endured highs and lows for many years. We have made it through this challenge and we shall conquer the next challenge(s) in our lives. I wish you all the best and I am forever grateful for your company and insightful support.

To Study Participants, School, and School District: Thank you for your generosity and willingness to help even when it would have been much easier to just brush me off. I hope to continue our relationship in the future and that I can help other schools from the district and other districts benefit from the same experience we shared.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 REVIEW OF LITERATURE

Physical Inactivity and Work-Related Stress

In the United States, for several decades, the two leading causes of death have been heart disease and cancer, with the latter nearly tripling its number between 1950 and 2011 (U.S. Department of Health and Human Services [HHS], Centers for Disease Control and Prevention [CDC], 2018). Researchers and practitioners from the health field agree that among many factors, physical inactivity, poses increased risks for heart disease and cancer (HHS, National Institutes of Health [NIH], National Cancer Institute [NCI], 2015). According to the CDC, approximately 76% of the American adult population do not meet the recommended objectives for aerobic physical activity (PA) and muscle-strengthening activity (2019). Past research found a direct link between physical inactivity and several non-communicable illnesses and chronic conditions such as cardiovascular disease, cancer, high blood pressure, diabetes, osteoporosis, obesity, and stroke (Lee et al., 2012; Unwin & Alberti, 2006; Venables & Jeukendrup, 2009; Zhang & Chaaban, 2013).

Another concern for health professionals is the connection between work-related stress and chronic illnesses. Numerous studies in the 1980s focused on this issue. Articles such as *The Study of Stress at Work* by Baker (1985) pointed to the severity of stress and its impact on individuals' physiological, psychological, and behavioral responses. In 1999, the National Institute for Occupational Safety and Health (NIOSH) published a document highlighting the knowledge about the causes of stress at work and steps to prevent job stress. The authors defined *job stress* as "the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker" (NIOSH working group, 1999). In

this document, the authors suggested steps to prevent occupational stress that are rather like empirical research: identify the problem, design and implement interventions, and evaluate the interventions (HHS, NIOSH working group, 1999). As described by the document, a successful intervention would help identify "organizational characteristics associated with both healthy, low-stress work and high levels of productivity" (p. 12).

The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) published a report titled *School Health Guidelines to Promote Healthy Eating and Physical Activity* (2018) to inform national, state, and local agencies about the health status of students in schools. The resulting guidelines synthesized the findings from an extensive review of literature on the long-term and intermediate outcomes associated with unhealthy eating and physical inactivity. One of the nine guidelines, guideline 8 states that we should provide a wellness program that includes healthy eating and physical activity services for all school staff members.

As technology improved, researchers developed a deeper understanding of the pathophysiological mechanism involved with the psychosomatic effects of stress. In 2006, researchers reported the relationship between work stressors and metabolic syndrome, e.g., "cluster of risk factors that increase the risk of heart disease and type 2 diabetes" (Chandola et al., 2006, p. 1). At the conclusion of the 14-year study, researchers agreed that continuous exposure to job-related stress is linked to heart disease and that individuals in low-status jobs had more than doubled the odds of their high-status counterparts to suffer from the metabolic syndrome (Chandola et al., 2006). As suggested by Ingersoll and Merill (2011), the teaching profession is often seen as having lower status than medicine, law, and engineering, therefore potentially putting teachers at a high-risk for heart disease or cardiovascular illness.

Cost of Physical Inactivity and Work-Related Stress

Since teachers are part of the American workforce, it is important to point out the estimated cost associated with physical inactivity and pertinent occupational stress. According to the Centers for Medicaid and Medicare Services (CMS), the U.S. spent in 2017 $3.5 trillion ($10,739 per person) in overall health cost, and this value is estimated to increase at a rate of 5.5% per year, reaching $6 trillion by 2027 (U.S. Department of Health and Human Services, 2010). Workers who endure high levels of stress have nearly 50% greater health-care expenditures (NIOSH, 1999). Feelings often referred to as 'burnout' are considered as another psychological occupational disease, aside from depression and loneliness, which results from continuous exposure to high levels of stress (Grudtner, 2017). Smith, Seagal, and Robinson (2020) summarized the relationship between the attributes of job-related stress and job-related burnout experienced by an individual. Researchers mentioned that burnout is the result of prolonged exposure to stress, which can be characterized by over-engagement and best identified when certain attributes are present (e.g., loss of energy, leads to anxiety disorders, or may kill prematurely). At the onset of burnout, which is characterized by disengagement, the attributes have shifted (e.g., loss of motivation, ideals, and hope; leads to detachment and depression, or may make life seem not worth living) to a state of hopelessness. The researchers suggested that individuals displaying attributes of stress can still think positively and imagine that the situation would change if they managed to gain control over the stressors, and that is not the case for those displaying attributes of burnout.

The burnout problem often comes with a negative financial impact in the form of absenteeism, sick presenteeism, low productivity, high turnover cycles, and other problems related to employees' poor physical and mental health (Johns, 2009). Job-related stress and burnout have

shown to be salient among teachers (Gold & Roth, 2013; Greenberg et al., 2016) and, furthermore, Borg and Riding (1991) found a statistical significance in the relationship between stressed teachers and their frequency of absences. Teacher absenteeism due to burnout (or any other reason) has an impact on students' achievements. Miller (2012) presented a report on the cost of teacher absence relative to learning loss suffered by public schools' students. This report, an initiative from the Office for Civil Rights in the U.S. Department of Education, showed that 36% of teachers (national average) were absent more than ten days in the 2009-10 school year, with middle schools having the highest average (37.8%), followed by elementary (36.7%) and high schools (33.3%). The report also showed that schools in low-socioeconomic status areas experience higher rates of teacher absenteeism than schools in more prosperous neighborhoods. The high rate of teachers' absences has a statistically negative impact on students' achievements in math (Clotfelter et al., 2009; Finlayson, 2009; Miller, 2012) and reading skills (Clotfelter et al., 2009; Finlayson, 2009), and the number of students passing advanced placement courses' exams (Porres, 2016).

These poor emotional conditions lead to lower morale and higher turnover rates due to early burnout (Gold & Roth, 2013; Greenberg et al., 2016). Successful implementation and management of school staff wellness programs have the potential to benefit schools and school districts by lowering costs inferred by physical and mental health issues (Allegrante & Michela, 1990; Aldana et al., 2005; Kolbe & Tirozzi, 2011). In their study, Aldana et al (2005) found a significant negative relationship between school employee's absenteeism and participation in a wellness program. Since participants averaged three fewer absences compared to their counterparts in control group, the district benefited from a cost savings of $15.60 for every dollar spent

on the wellness program, totaling $2.5 million in savings in a period of two years (Aldana et al., 2005; Kolbe & Tirozzi, 2011).

Physical Activity Programs as Possible Solutions

Several physical activity and wellness workplace initiatives have combated the decrease in health status and the increase in medical costs for working Americans. The Healthy People 2010 (U.S. Department of Health and Human Services, 2010) initiative already had several objectives that alluded to the critical conditions of the workforce in the United States. Several review studies focused on the understanding of successful or unsuccessful intervention programs and made suggestions for how to improve workplace health-enhancing programs (Heaney & Goetzel, 1997; Malik et al., 2014; To et al., 2013). In their systematic review, Malik et al. explored three types of interventions implemented in the workplace: PA or exercise, counseling or support, and health promotion messages or information. They compared and contrasted the characteristics of 58 interventions, the impact of those characteristics on PA levels, and the quality of each intervention. The authors found that the majority (n = 32) of interventions showed a statistically significant improvement in at least one of the measures of PA when compared to the control group (Malik et al., 2014). In another study, Eaton et al. (2007) claimed that "employee wellness programs in private business have shown positive outcomes on employee health and well-being" and suggested that "these findings are generalizable to schools (p. 558)."

Desire2Move (D2M) is an example of a successful PA program which takes place in a higher education institution, and it has completed nine editions by the spring of 2022. Through an 8-week team-based PA challenge, the program focused on helping university employees increase their minutes of PA by applying health behavior theories (e.g., theory of planned behavior) with various methods of implementation (Biber & Ellis, 2016; Davis et al., 2021; Ellis et al.,

2020). D2M was at the center of these original studies which have added meaningful findings to the literature on the well-being of higher education professionals. Biber and Ellis used the RE-AIM framework, which includes (a) Reach, (b) Effectiveness, (c) Adoption, (d) Implementation, and (e) Maintenance, to evaluate the impact the D2M program on university employees. After evaluation of the 8-week program, researchers suggested that the D2M program had positive results for effectiveness, adoption, implementation, and maintenance, while reach showed modest results (Biber & Ellis, 2016). Ellis et al. and Davis et al. evaluated the impact implementation fidelity by the wellness champions of the D2M program had on program effectiveness and the impact of tailored messages on non-compliant study participants, respectively. Researchers suggested that, in both studies, the independent variable had a positive impact on the dependent variable.

Internet-Based and Mobile Health Interventions

Internet ready mobile devices (e.g., smartphones, tablets, laptops) are important in the delivery of web-based interventions (eHealth) for their quick access via internet signal and their mobile characteristics (Eysenbach & CONSORT-EHEALTH Group, 2011). Mobile health (mHealth) interventions are, therefore, interventions in the health and wellness field that use physical and mental health-oriented applications (mHealth Apps). mHealth Apps have been an increasingly important tool for practitioners and researchers in the prevention, management, and treatment of chronic diseases, especially for metabolic syndrome (Eysenbach & CONSORT-EHEALTH Group, 2011; see also Aminuddin et al., 2019; Gandhi et al., 2017; Mao et al., 2020). The increased popularity comes from the widespread development of apps that provide users numerous ways to manage issues as specific as target levels of hemoglobin and blood sugar levels in the treatment of type 2 diabetes (Mao et al., 2020) or as simplistic as tracking number of daily

steps and distance traveled (e.g., factory installed accelerometer technology in smartphones). Gandhi et al. (2017) stated in their systematic review and meta-analysis that "mHealth technology has the ability to provide evidence-based guidance in an interactive, engaging, and user-friendly format with instant knowledge acquisition" (pp. 219-220).

The last decade has seen a rapid increase in the use of eHealth and mHealth interventions with the majority reporting positive results. To guarantee the proper reporting of trials (mostly for randomized control trial [RCT]), the Consolidated Standards of Reporting Trials of Electronic and Mobile Health and Online TeleHealth (CONSORT-EHEALTH) became the standard guideline for authors to present their findings (Eysenbach & CONSORT-EHEALTH Group, 2011). The original checklist presented in April's volume of the Journal of Medical Internet Research (JMIR, 2011) was recently updated to its new version which can be completed online (V.1.6.1; http://tinyurl.com/consort-ehealth-v1-6). At the time of the checklist's conception, 263 different journals published 582 randomized trials. The two latest systematic reviews and meta-analyses of eHealth RCTs incorporated in this review of literature had an initial count of 1,917 (McCrabb et al., 2019) and 1,747 (Mao et al., 2020).

eHealth and mHealth interventions have positive effects in the management of metabolic syndrome (Gandhi et al., 2017; Mao et al., 2020). The meta-analysis performed by Gandhi and colleagues focused on cardiovascular disease and reported that in comparison with standard-care group the mHealth group had increases in adherence to medical therapy, ability to reach blood pressure goals, meeting exercise goals, felt less anxious, and elevated awareness of diet and exercise. The meta-analysis by Mao and colleagues aimed to investigate the efficacy of mHealth interventions on type 1 & 2 diabetes and hypertension in individuals 12 years of age or older. The researchers here concluded that mHealth interventions have positive effects and indicated that

mHealth intervention are efficacious in the management of hypertension and both types of diabetes. eHealth and mHealth interventions that promote health behavior changes often use text messages, mHealth Apps, and websites to deliver targeted and tailored messages to participants' smartphones or other internet-ready devices (Gandhi et al., 2017; Mao et al., 2020; McCrabb et al., 2019; Nahum-Shani et al., 2018; van Dantzig et al., 2013). In addition, such studies that applied behavior change theories with or without associations to behavior change techniques (BCTs; Michie et al., 2013, see Behavior Change Technique Taxonomy) found short- and long-term positive effects of their intervention on the outcomes measured (McCrabb et al., 2019; Tang et al., 2019). Tang and colleagues (2019) performed a meta-analysis and found significant effects on post-intervention self-efficacy for PA (up to six months). Those researchers also found a positive relationship between the number of BCTs and the effect size for maintained changes in self-efficacy for PA (six months or more; pp. 808).

Theoretical Frameworks.

Theoretical frameworks serve as a foundation for guiding research studies by providing a structured approach to understanding and explaining a particular phenomenon. The current study adopted the use of the Health Belief Model (HBM) and the Behavior Change Technique Taxonomy (BCT) as two theoretical frameworks that have been widely used to understand and explain behavior change. The combination of these frameworks provides a powerful tool for understanding and promoting behavior change, particularly in the context of health behavior.

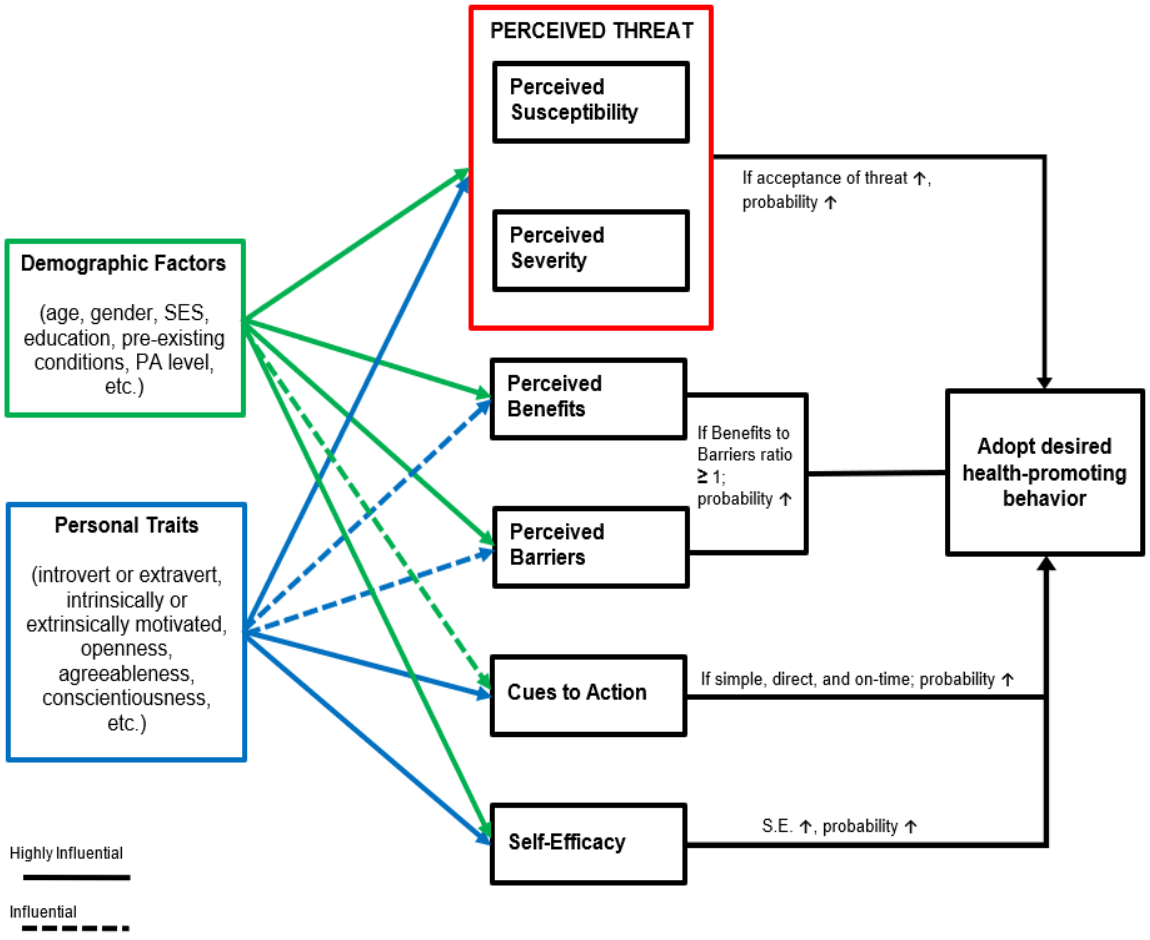
Health Belief Model (HBM)

Three social psychologists conceptualized the Health Belief Model (HBM; Rosenstock, 1974) which was influenced by the work of Kurt Lewin (1935). The health conditions of the American worker in the 1950's raised concerns among researchers and practitioners, which

prompted the US Public Health Services to shift their focus on preventive measures instead of treatment for tuberculosis. For that specific need, Rosenstock, Hochbaum, and Kegels developed a systematic method to detect early signs of a disease and explain preventive measures to stop the onset of such disease (Sharma, 2017). In the original version the model identified and described five constructs: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, and cues to action (Rosenstock, 1974). Perceived susceptibility and perceived severity are usually combined and known as *perceived threat*. The contemporary version of the model expanded to six constructs by adding self-efficacy (Rosenstock et al., 1988). The concept of self-efficacy was first developed and utilized in health behavior research by Albert Bandura (1986). The HBM focuses on an individual's beliefs and perceptions about a certain health threat, and how it impacts health behaviors. The model suggests that an individual's behavior is influenced by the beliefs and perceptions about a particular health threat, the perceived susceptibility to that threat, and the perceived benefits of taking action to alleviate the threat. For an illustrative version of the model, please refer to Figure 1.

Figure 1

HBM diagram



Below are the six model constructs:

Perceived Susceptibility. Most adults have a clear perception of their vulnerability towards experiencing a condition that would negatively affect their health. Individuals' notion of their susceptibility to a disease or condition varies greatly and it is determined by internal and external factors. At the optimistic end of the range, individuals will deny the possibility of them contracting the disease. Towards the middle of the range, individuals accept the possibility of acquiring an illness but think that it will not happen to them. At the pessimistic end of the range,

individuals believe they are at a high risk or extremely vulnerable and most certainly will develop a harmful condition. Therefore, individuals that have a higher sense of susceptibility are more likely to take preventive actions (i.e., change behaviors). Glanz (2001) explained the importance for individuals to understand and accept the influence of undesired dietary behaviors to increase the success of nutrition-focused interventions. This construct has a strong cognitive characteristic, and it depends on individuals acquiring the knowledge about their susceptibility. Individuals need to receive relatable and current information about their susceptibility to the disease(s) and the potential harm.

Perceived Severity. This construct refers to individuals' beliefs about the potential harm a certain disease poses to them and their notion of the consequences of not changing an undesirable behavior. Individuals' feelings about the seriousness of contracting an illness (or leaving untreated) also vary greatly. The variations include evaluations of both medical/clinical consequences (e.g., pain, disability, and death) and possible social consequences (e.g., absenteeism at work, diminished quality of life, loss of social relationships, and burden to the family unit). This construct also has a strong connection to a cognitive component which depends on individuals being aware of the severity of the disease(s) or not changing the current behavior(s). Kagee and Freeman (2017) illustrated the strength of the connection between body and mind and the reciprocal influence (positive and negative) that occurs between physical and mental health. They explained that highly depressed HIV/AIDS individuals increased adherence to medication treatment and decreased engagement in risky behaviors after learning about potential harm of such behaviors. The higher individuals' beliefs are about the severity of their present condition the more likely they are to take the necessary actions. Health professionals may start the proposed course of action by simply discussing the possible benefits of changing undesired behaviors.

Perceived benefits. The third construct relates to individuals' belief in the rewards from the suggested behavior(s) being directly connected with the reduction of risk and seriousness of the illnesses or effects of current behavior(s). The suggested course of action becomes more acceptable to the individuals by being previously successful or relatively effective when offered as alternative actions to individuals with similar characteristics. The individuals are more likely to accept the benefits of changing behavior if such change reduces the *perceived threat* of the disease(s) or undesired behavior(s). This construct depends on the course of action being clearly laid out for the individuals, together with reminders of the advantages for taking such actions at every step of the process. With all of that in place, the benefits will outweigh individuals' *perceived barriers*, which in turn will increase the probability of adopting the desired behavior(s). Snetselaar and Delahanty (2017) demonstrated a successful course of action to help patients achieve and maintain healthy dietary habits by maintaining a positive ratio between perceived benefits and barriers.

Perceived Barriers. Even though an individual believes that the inherited benefits of taking action are effective, such an individual finds reasons for an action not to take place. Barriers relate to the characteristics of the proposed behavior change and may be due to inconvenience, too expensive, too unpleasant, or too painful or upsetting. These characteristics may lead a person away from taking the desired action. Everyone perceives the potential negative aspects of a health-driven action differently and it may result in impediments to adopting the recommended behavior. The subjective cost-benefit analysis is thought to occur wherein the individual weighs the suggested action's effectiveness against his or her perceptions that it may already have subconsciously been subscribed. The likelihood of action is determined, therefore, based on the conscious interpretation of the rewards outweighing the costs of adopting the suggested behavior.

Cues to Action. This construct might be internal (i.e., symptoms) or external (e.g., mass media communications, interpersonal interactions, or reminder postcards from health care providers). An individual's perception of the levels of susceptibility and seriousness provides the *internal* force to act. The acceptance of potential benefits (minus barriers) provides the *external* path of action. However, it may require a 'cue to action' for the desired behavior to occur. Therefore, the goal is to provide on-time and specific directions, so individuals attempt the desired behavior by combining internal and external forces. The increased popularity of Just-in-Time Adaptive Interventions (JITAIs) with promoting behavior change is due to the growing technological advances in mobile and sensing technologies (Nahum-Shani et al., 2018). Nahum-Shani and colleagues (2018) suggested that providing timely and tailored cues holds the potential to increase participants' adherence and retention in mHealth interventions.

Self-Efficacy. This construct is defined as "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1997). Bandura distinguished *self-efficacy expectations* from *outcome expectations,* defined as a person's estimate that a given behavior will lead to certain outcomes. Outcome expectations are parallel to the concept of *perceived benefits.* In 1988, Rosenstock, Strecher, and Becker suggested that self-efficacy be added to the HBM as a separate construct, while including original concepts of susceptibility, severity, benefits, and barriers. For behavior change to succeed, people must (as the original HBM theorizes) feel threatened by their current behavioral patterns (perceived susceptibility and severity) and believe that change of a specific kind will result in a valued outcome at an acceptable cost (perceived benefit). They also must feel themselves competent (self-efficacious) to overcome perceived barriers to act in the desired manner. In the study by Evans (2008), he emphasizes the

benefit of increasing self-efficacy to help patients perform the intended behavior and persist when faced with adversities.

Among the limitations of the HBM model are its insensitivity to individual's SES, cultural background, and previous experiences - which may influence the individual's choice of health behaviors. A second limitation to the model is the difficulty to test its effectiveness in published studies due to the different nature of the research questions of each study and the fact that the constructs do not have equal weight (Janz et al., 2002). To address some of the limitations, one could consider applying behavior-changing techniques in conjunction with the HBM constructs as the mechanisms of action. Mechanisms of action are psychological, physical, or social processes that influence behavior and are targeted by behavior change techniques (Michie et al., 2018). The HBM constructs are, therefore, the mechanisms of action which will be affected by the *active ingredients* (components) of the intervention with aim to influence program participants to adopt the desired behavior (Carey et al., 2019; Connell et al., 2019).

Behavior Change Technique (BCT) Taxonomy

The earlier version of the BCT taxonomy was developed by Abraham and Michie (2008) answering a call for an improved method for developing and evaluating health behavior interventions (Michie et al., 2013). Therefore, the proposed taxonomy provided a method for researchers to target issues regarding lack of consistency among interventions that reported processes for behavior change without identifying the successful technique implemented. The BCT taxonomy provides a comprehensive and systematic categorization of the specific techniques that are used to change behavior. In addition, the BCT taxonomy was developed to help researchers and practitioners understand the different ways that behavior can be influenced, and to provide a common language for discussing behavior change interventions.

A BCT is defined as an observable and replicable component designed to change behavior (Michie et al., 2015). It is the smallest component compatible with retaining the postulated *active ingredients* and can be used alone or in combination with other BCTs (Abraham & Michie, 2008; Michie et al., 2013). The use of a BCT should be well specified to enable interventions to be evaluated and effective interventions (i.e., those which bring about the desired change in the target behavior[s]) to be implemented. The BCTs are descriptors and vary in the extent to which they have been empirically investigated and the extent to which they bring about the desired change to behavior(s) in different situations. When defining the BCTs used in empirical studies, researchers must be practical, non-overlapping, and useful in the reliable reporting of interventions. By doing so, effective interventions are generalizable and easily replicated. Some of the most common used BCTs are goal setting (behavior & outcome), problem solving, action planning, feedback on behavior & on outcomes of behavior, demonstration of the behavior, information about health consequences, prompts & cues, and social support. For a full list of BCTs, please see Figure 2.

Researchers must also be precise when specifying which BCTs were used in the interventions since they are proven to be beneficial for conducting primary research, implementing effective interventions, and for conducting evidence syntheses. Following the BCT methodology is also useful in assessing the fidelity of implementation of interventions. The comprehensive list of BCTs (Michie et al., 2013) facilitates primary research, as intervention developers can draw on a wider range of BCTs. By linking BCTs with theories of behavior change, researchers and reviewers can investigate possible effect modifiers and/or mechanisms of action. There are some intervention components that can be thought of as ‘modifier BCTs’ in that they add value to BCTs but do not in themselves change behavior, for example, tailoring, giving choice, and

homework tasks. Specifying intervention content with this degree of precision helps to maximize scientific as well as practical benefits of research investment into the development and evaluation of complex interventions.

Figure 2

Complete list of BCTs

Page	Grouping and BCTs
1	**1. Goals and planning**
	1.1. Goal setting (behavior) 1.2. Problem solving 1.3. Goal setting (outcome) 1.4. Action planning 1.5. Review behavior goal(s) 1.6. Discrepancy between current behavior and goal 1.7. Review outcome goal(s) 1.8. Behavioral contract 1.9. Commitment
3	**2. Feedback and monitoring**
	2.1. Monitoring of behavior by others without feedback 2.2. Feedback on behaviour 2.3. Self-monitoring of behaviour 2.4. Self-monitoring of outcome(s) of behaviour 2.5. Monitoring of outcome(s) of behavior without feedback 2.6. Biofeedback 2.7. Feedback on outcome(s) of behavior
5	**3. Social support**
	3.1. Social support (unspecified) 3.2. Social support (practical) 3.3. Social support (emotional)
6	**4. Shaping knowledge**
	4.1. Instruction on how to perform the behavior 4.2. Information about Antecedents 4.3. Re-attribution 4.4. Behavioral experiments
7	**5. Natural consequences**
	5.1. Information about health consequences 5.2. Salience of consequences 5.3. Information about social and environmental consequences 5.4. Monitoring of emotional consequences 5.5. Anticipated regret 5.6. Information about emotional consequences
8	**6. Comparison of behaviour**
	6.1. Demonstration of the behavior 6.2. Social comparison 6.3. Information about others' approval
9	**7. Associations**
	7.1. Prompts/cues 7.2. Cue signalling reward 7.3. Reduce prompts/cues 7.4. Remove access to the reward 7.5. Remove aversive stimulus 7.6. Satiation 7.7. Exposure 7.8. Associative learning
10	**8. Repetition and substitution**
	8.1. Behavioral practice/rehearsal 8.2. Behavior substitution 8.3. Habit formation 8.4. Habit reversal 8.5. Overcorrection 8.6. Generalisation of target behavior 8.7. Graded tasks
11	**9. Comparison of outcomes**
	9.1. Credible source 9.2. Pros and cons 9.3. Comparative imagining of future outcomes
12	**10. Reward and threat**
	10.1. Material incentive (behavior) 10.2. Material reward (behavior) 10.3. Non-specific reward 10.4. Social reward 10.5. Social incentive 10.6. Non-specific incentive 10.7. Self-incentive 10.8. Incentive (outcome) 10.9. Self-reward 10.10. Reward (outcome) 10.11. Future punishment
15	**11. Regulation**
	11.1. Pharmacological support 11.2. Reduce negative emotions 11.3. Conserving mental resources 11.4. Paradoxical instructions
16	**12. Antecedents**
	12.1. Restructuring the physical environment 12.2. Restructuring the social environment 12.3. Avoidance/reducing exposure to cues for the behavior 12.4. Distraction 12.5. Adding objects to the environment 12.6. Body changes
17	**13. Identity**
	13.1. Identification of self as role model 13.2. Framing/reframing 13.3. Incompatible beliefs 13.4. Valued self-identify 13.5. Identity associated with changed behavior
18	**14. Scheduled consequences**
	14.1. Behavior cost 14.2. Punishment 14.3. Remove reward 14.4. Reward approximation 14.5. Rewarding completion 14.6. Situation-specific reward 14.7. Reward incompatible behavior 14.8. Reward alternative behavior 14.9. Reduce reward frequency 14.10. Remove punishment
19	**15. Self-belief**
	15.1. Verbal persuasion about capability 15.2. Mental rehearsal of successful performance 15.3. Focus on past success 15.4. Self-talk
19	**16. Covert learning**
	16.1. Imaginary punishment 16.2. Imaginary reward 16.3. Vicarious consequences

Conclusion

For decades the health status of the American work force has been declining which has led to the increased diagnosis of several chronic illnesses among adults. Non-communicable diseases carry a physical, emotional, and financial burden to the individual, family, and society. Federal agencies such National Institute of Health (NIH) and the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) have linked job-related stress to the early onset of most chronic illnesses and premature death. Therefore, government agencies have combined their efforts to find sustainable solutions that aim to minimize the affect of job-related stress and reduce the rate of chronic illnesses diagnosis among American adults. The implementation of on-the-job wellness programs has been widely researched and viewed as a promising remedy to combat the negative impact of job-related stress on employees.

Teachers, other school employees, and school districts have benefited from the implementation of a wide variety of wellness programs within schools aiming to reduce the effects of job-related stress. Interventions conducted in workplace settings that carried a physical activity component along with other measurement variables have shown a higher rate of effectiveness and researchers have suggested that intervention implementation and management are transferable to schools. Teachers as a class of public service workers are exposed to several job-related stressors and the psychosomatic responses affect their personal and professional lives. School employees, specifically teachers, are among the American workforce and in need of health behavior interventions with well-establish theoretical framework that aim to reduce the effects of job-related stress.

References

Abraham, C., & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health psychology*, 27(3), 379.

Aldana, S., Merrill, R., Price, K., et al. (2005). Financial impact of a comprehensive multisite workplace health promotion program. *Preventive Medicine* 40(2): 131–137. DOI: 10.1016/j.ypmed.2004.05.008.

Allegrante, J. P. & Michela, J. L. (1990). Impact of a School-Based Workplace Health Promotion Program on Morale of Inner-City Teachers. *Journal of School Health* 60(1): 25–28. DOI: 10.1111/j.1746-1561.1990.tb04772.x.

Aminuddin, H. B., Jiao, N., Jiang, Y., Hong, J., & Wang, W. (2019). Effectiveness of smartphone-based self-management interventions on self-efficacy, self-care activities, health-related quality of life and clinical outcomes in patients with type 2 diabetes: A systematic review and meta-analysis. International Journal of Nursing Studies. https://doi.org/10.1016/j.ijnurstu.2019.02.003

Biber, D. D. & Ellis, R. (2016). A RE-AIM evaluation of a team-based physical activity program for university employees. *International Journal of Sports Studies* 6(2): 90–94.

Carey, R. N., Connell, L. E., Johnston, M., Rothman, A. J., de Bruin, M., Kelly, M. P., & Michie, S. (2019). Behavior change techniques and their mechanisms of action: a synthesis of links described in published intervention literature. *Annals of Behavioral Medicine*, *53*(8), 693-707.

Chandola, T., Brunner, E., & Marmot, M. (2006). Chronic stress at work and the metabolic syndrome: prospective study. Bmj, 332(7540), 521-525.

Connell, L. E., Carey, R. N., de Bruin, M., Rothman, A. J., Johnston, M., Kelly, M. P., & Michie, S. (2019). Links between behavior change techniques and mechanisms of action: an expert consensus study. *Annals of Behavioral Medicine*, *53*(8), 708-720.

Davis, A., Wilson, K., & Ellis, R. (2021). An observation of the impact of tailored messages on participant non-compliance in Desire2Move. *Translational Behavioral Medicine*. Advance online publication. DOI: 10.1093/tbm/ibab092

Eaton, D. K., Marx, E., & Bowie, S.E. (2007). Faculty and staff health promotion: results from the school health policies and programs Study 2006. *Journal of School Health* 77(8): 557–566. DOI: 10.1111/j.1746-1561.2007.00235.x.

Ellis, R., Gurvitch, R., Lima, M., & Lund, J. (2019). Examining the feasibility of translating a university workplace wellness program. *Annals of Behavioral Medicine* 53:S646–S646.

Ellis, R., Saringer, C., Davis, A., Biber, D., & Ferrer, D. A. (2020). Examining the Impact of Wellness Champions on the Effectiveness of a Workplace Health and Well-Being Program. DOI: 10.1177/0890117120929131.

Evans, D. (2008). Teaching patients to manage their asthma. In M. Castro & M. Kraft (Eds.), Clinical asthma (pp. 221-228). Philadelphia, PA: Mosby. https://doi.org/10.1016/B978-032304289-5.10025-6

Eysenbach, G., & Consort-EHEALTH Group. (2011). CONSORT-EHEALTH: improving and standardizing evaluation reports of Web-based and mobile health interventions. Journal of medical Internet research, 13(4), e126.

Gandhi, S., Chen, S., Hong, L., Sun, K., Gong, E., Li, C., ... & Schwalm, J. D. (2017). Effect of mobile health interventions on the secondary prevention of cardiovascular disease: systematic review and meta-analysis. Canadian Journal of Cardiology, 33(2), 219-231.

Glanz, K. (2001). Current theoretical bases for nutrition intervention and their uses. In A. M. Coulston, C. L. Rock, & E. R. Monsen (Eds.), Nutrition in the prevention and treatment of disease (pp. 83-93). San Diego, CA: Academic Press. https://doi.org/10.1016/B978-012193155-1/50008-8

Gold, Y. & Roth, R. A. (2013). Teachers Managing Stress & Preventing Burnout. Routledge. DOI: 10.4324/9780203209899.

Greenberg, M. T., Brown, J. L. & Abenavoli, R. M. (2016). Teacher stress and health effects on teachers, students, and schools. *Edna Bennett Pierce Prevention Research Center, Pennsylvania State University*.

Heaney, C.A. & Goetzel, R.Z. (1997). A Review of Health-Related Outcomes of Multi-Component Worksite Health Promotion Programs. *American Journal of Health Promotion* 11(4): 290–307. DOI: 10.4278/0890-1171-11.4.290.

Janz, N. K., Champion, V. L., & Strecher, V. J. (2002). Health behavior and health education. Health behavior and health education: Theory, research and practice. 3rd ed., pp. 45-66. San Francisco, CA: Jossey-Bass.

Johns, G. (2009). Absenteeism or presenteeism? Attendance dynamics and employee well-being. In *The Oxford Handbook of Organizational Well Being*.

Kagee, A., & Freeman, M. (2017). Mental health and physical health (Including HIV/AIDS).

Kolbe, L.J. & Tirozzi, G.N. (2011). School employee wellness: A guide for protecting the assets of our nation's schools. *Atlanta, GA: Centers for Disease Control*.

Kolbe, L.J., Tirozzi, G.N., Marx, E., et al. (2005). Health programmes for school employees: improving quality of life, health and productivity. *Promotion & Education* 12(3–4): 157–161. DOI: 10.1177/10253823050120030115.

Lee I-M, Shiroma EJ, Lobelo F, et al. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *The Lancet* 380(9838): 219–229. DOI: 10.1016/S0140-6736(12)61031-9.

Malik, S. H., Blake H., & Suggs, L. S. (2014). A systematic review of workplace health promotion interventions for increasing physical activity. *British Journal of Health Psychology* 19(1): 149–180. DOI: 10.1111/bjhp.12052.

Mao, X., Zhao, X., & Liu, Y. (2020). mHealth App recommendation based on the prediction of suitable behavior change techniques. Decision Support Systems, 113248.

Mao, Y., Lin, W., Wen, J., & Chen, G. (2020). Impact and efficacy of mobile health intervention in the management of diabetes and hypertension: a systematic review and meta-analysis. *BMJ Open Diabetes Research and Care*, *8*(1), e001225.

Michie S, Wood CE, Johnston M, et al. (2015) Behaviour change techniques: the development and evaluation of a taxonomic method for reporting and describing behaviour change interventions (a suite of five studies involving consensus methods, randomized controlled trials and analysis of qualitative data). Southampton (UK): NIHR Journals Library; Nov. (Health Technology Assessment, No. 19.99.) Chapter 1, General introduction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK327617/

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J., & Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. *Annals of behavioral medicine: a publication of the Society of Behavioral Medicine*, *46*(1),81–95. https://doi.org/10.1007/s12160-013-9486-6

Miller, R. (2012). Teacher Absence as a Leading Indicator of Student Achievement: New National Data Offer Opportunity to Examine Cost of Teacher Absence Relative to Learning Loss. *Center for American Progress*.

National Center for Education Statistics (2018) Digest of education statistics. Available at: nces.ed.gov/programs/digest/d17/tables/dt17_105.40.asp (accessed 10 October 2019)

National Institute for Occupational Safety and Health (NIOSH, 1999) URL https://www.cdc.gov/niosh/docs/99-101/default.html visited on November, 2020

Rosenstock, I. M. (1974). The Health Belief Model and Preventive Health Behavior. Health Education Monographs, 2(4), 354–386. https://doi.org/10.1177/109019817400200405

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social Learning Theory and the Health Belief Model. Health Education Quarterly, 15(2), 175–183. https://doi.org/10.1177/109019818801500203

Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* 55(1): 68–78. DOI: 10.1037/0003-066X.55.1.68.

Ryan, R. M., Frederick, C. M., Lepes, D., Rubio, N., & Sheldon, K. M. (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology*. 28, 335-354.

Smith, M., Seagal, J., & Robinson, L. (2020). *Burnout Prevention and Treatment*. HelpGuide.org. https://www.helpguide.org/articles/stress/burnout-prevention-and-recovery.htm

Smith, J. R., Terry, D. J. & Hogg, M. A. (2007). Social identity and the attitude-behaviour relationship: effects of anonymity and accountability. *European Journal of Social Psychology* 37(2): 239–257. DOI: 10.1002/ejsp.356.

Snetselaar, L. G., & Delahanty, L. M. (2017). Nutrition intervention: lessons from clinical trials. In Nutrition in the Prevention and Treatment of Disease (pp. 203-216). Academic Press.

Thomas, S, Reading, J & Shephard, R. J. (1992). Revision of the physical activity readiness questionnaire (PAR-Q). *Canadian journal of sport sciences*.

To, Q. G., Chen, T. T. L., Magnussen, C. G., et al. (2013). Workplace Physical Activity Interventions: A Systematic Review. *American Journal of Health Promotion* 27(6): e113–e123. DOI: 10.4278/ajhp.120425-LIT-222.

U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. (2015). Retrieved from https://www.cancer.gov/about-cancer/causes-prevention/risk

U.S. Department of Health and Human Services (2010). Educational and community-based programs. Available at: www.healthypeople.gov/2010/Document/pdf/Volume1/07Ed.pdf (accessed at 10 October 2019)

U.S. Department of Health and Human Services (2019). Physical activity - Objectives. Available at: www.healthypeople.gov/2020/topics-objectives/topic/physical-activity/objectives (accessed at 9 December 2019)

Unwin, N. & Alberti, K. G. M. M. (2006). Chronic non-communicable diseases. *Annals of Tropical Medicine & Parasitology* 100(5–6): 455–464. DOI: 10.1179/136485906X97453.

Venables, M. C. & Jeukendrup, A. E. (2009). Physical inactivity and obesity: links with insulin resistance and type 2 diabetes mellitus. *Diabetes/Metabolism Research and Reviews* 25(S1): S18–S23. DOI: 10.1002/dmrr.983.

Zhang, J. & Chaaban, J. (2013). The economic cost of physical inactivity in China. *Preventive Medicine* 56(1): 75–78. DOI: 10.1016/j.ypmed.2012.11.010.

2 A PILOT WELLNESS PROGRAM FOR URBAN SCHOOL EMPLOYEES: AN EXPLORATORY MIXED-METHOD STUDY

Introduction

Public pre-K through 12th grade school employees are an integral part of the public serving workforce. In 2015, the combined number of teachers in elementary, secondary, and postsecondary schools in the U.S. was slightly over five million (National Center for Education Statistics, 2018). Public school teachers have a stressful occupation (Kyriacou, 2001) due to some features unique to their job including emotional demands from coping with adverse behavior and disciplining students, unsatisfactory support from colleagues (social and professional) and students' parents, high workload, constant changes in educational system, standardized testing with attached performance ratings, and large class sizes, which places them at higher risk of developing psychosomatic disorders and chronic illnesses (Bauer et al., 2007; Bellingrath et al., 2009; Fives et al., 2007; Guglielmi & Tatrow, 1998; Mahan et al., 2010; Montgomery & Rupp, 2005) increasing teacher stress and leading to increased risk of burnout.

Chronic stress could lead to burnout which has been a common feeling among teachers (Gold & Roth, 2013; Greenberg et al., 2016). Job-related stress and feelings of burnout among teachers often have a negative financial impact to schools, school districts, and the communities they serve (Johns, 2009). Borg and Riding (1991) found a significant interaction between stressed teachers and their frequency of absences. Teacher absenteeism, due in part to burnout, has an impact on students' achievements. Miller (2012) reported on the cost of teacher absence relative to learning loss suffered by public schools' students. This report, an initiative from the Office for Civil Rights in the U.S. Department of Education, showed that 36% of teachers (national average) were absent more than ten days in the 2009-10 school year, with middle schools

having the highest average (37.8%), followed by elementary (36.7%) and high schools (33.3%). The report also showed that schools in low-socioeconomic status areas experience higher rates of teacher absenteeism than schools in more prosperous neighborhoods. The high rate of teachers' absences has a statistically negative impact on students' achievements in math (Miller, 2012; Clotfelter et al., 2009; Finlayson, 2009) and reading skills (Clotfelter et al., 2009; Finlayson, 2009), and the number of students passing advanced placement courses' exams (Porres, 2016).

When combining the total school workforce and considering the health impacts of teaching on school staff, schools are vital sites for the implementation of health and well-being programs. National and local agencies developed two models to support schools in increasing the level of PA as part of a holistic approach to education. Both models incorporate a component that aims to improve school staff wellness along with students' wellness. One of the models, the Whole School, Whole Community, Whole Child (WSCC) is used to guide schools and school districts on how to design, implement, and evaluate programs that address health in schools. There are ten components to this student-centered framework which emphasizes (a) the need for family and community involvement; (b) improvements to physical, social, and emotional environments; (c) proper services (health-related, social, etc.); and (d) opportunities to increase PA for everyone within the school. One of the ten tenets (e.g., Employee Wellness) highlights the importance of having healthy school employees to serve as powerful role models to students. Another multi-component approach that focuses on students' development of knowledge, skills, and confidence to be physically active for a lifetime is the Comprehensive School Physical Activity Program (CSPAP). The Society of Health and Physical Educators (SHAPE America) in conjunction with the CDC created this national framework to help schools develop and maintain programs that assist students to meet the recommended 60 minutes of PA and to maximize skills

learned in PE. Like WSCC, the CSPAP framework has one out of its five components dedicated to promoting staff wellness programs to improve employees' health, while being cost-sensitive for districts. The assumption is that healthier school personnel serve as positive role models to students and promote increased levels of PA among students.

Kuhn et al. (2018) prepared a report for the Active Schools Institute of the University of Northern Colorado. The authors synthesized the findings from 34 original studies that reported the results of intervention with multiple components of CSPAP. The studies included in the review demonstrated unique ways to implement multi-component CSPAP interventions that focused on elementary and secondary students. However, there was no mention of studies that focused on school employees. In addition, and outside the scope of the present study, there is a need for empirical evidence to substantiate the connection between the effects of health-related interventions on schools' employees and the desired benefits to the students.

Purpose and Research Questions

The purpose of this study was to implement a workplace intervention physical activity program and examine its influence on perceived barriers, motivation, and job-related stress. The following research questions guided the implementation phase of this study (1) How does participation in the TEAM PA program influence urban school employees' perceived barriers to being physically active? (2) How does participation in the TEAM PA program influence urban school employees' motivation towards physical activity? And (3) What are the effects of the TEAM PA program on urban school employees' job-related stress?

Methods

Part 1: Program Conceptualization

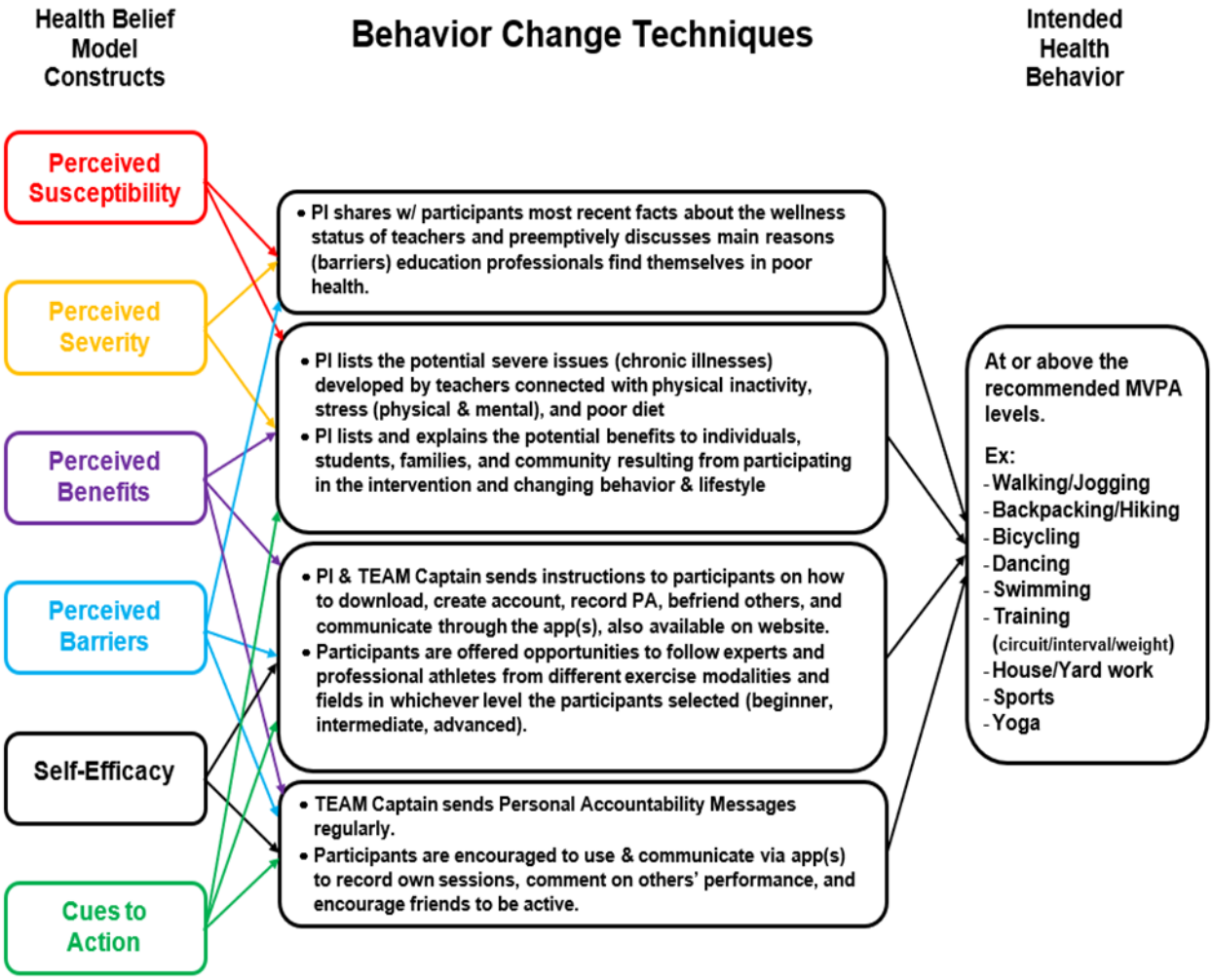
For the present study, the researcher conceptualized the eHealth TEAM wellness initiative. This initiative will attempt to help urban school employees form health promoting habits to manage the effects of chronic exposure to stress. In psychology and behavior change literature, habit-formation has distinct but overlapping definitions. It goes beyond the scope of this study to dive into either of those definitions. Nevertheless, to the extent where an unnatural sensation becomes natural, Maltz (1960) said it usually requires 21 days for an amputee to no longer experience the "phantom limb" or for "an old mental image to dissolve and a new one to jell" (p. xiii). Other researchers, who referred to habit-formation as the point where automaticity is reached, found that their study participants reached such a level in an average of 66 days, but the range was 18 to 254 days (Lally et al., 2010). Even though there is a large time variation, there is an agreement among experts that habit-formation advice via external prompts can promote faster automaticity (Lally et al., 2010; Gardner et al., 2012; Volpp & Loewenstein, 2020). Hence, the combination of HBM and the BCT taxonomy theoretical frameworks provided an ideal platform for the conceptualization of this program. Therefore, based on the literature, a 6-week program should be enough time to influence habit-formation among urban school employees.

The program aims to help school employees develop health-related habits: by informing participants about the potential *threat* to their health stemming from current behaviors; by alluding to the short and long term *benefits* of PA; by promoting the ideas of autonomy and flexibility to overcome *barriers* for participation in PA; by forging stronger *self-efficacy* towards exercise performance by providing expert demonstrations and feedback on completion; and by prompting participants with *cues* to take action and to help develop skills that will transition individuals

from being extrinsically to intrinsically motivated towards PA. In Figure 3, each of the MoAs serves as a platform for the intended action that will take place during the program. For example, the action of sharing information about the negative health consequences of physical inactivity (BCT #5.1) with participants will increase their awareness of the *threat* and, as consequence, increase the probability of them accepting the suggested healthier behavior.

Figure 3.

HBM Constructs Linked to BCTs



The TEAM program includes three key components: Teachers' (a) Engagement, (b) Activity, and (c) Motivation.

Engagement

In line with the *perceived barriers* construct, participants will require assistance in overcoming existing barriers when trying to adopt a new behavior. According to earlier research

(Kim & Gurvitch, 2020) the common barriers prevalent to this sample are lack of time, overwhelming amount of work, or difficulty to add anything to their schedule once the semester has started. The PI addressed those potential barriers during the presentation and also trained the TEAM captain (see TEAM captain section for training details) on how to communicate with participants to maximize their engagement throughout the program's duration. Other concerns that could potentially become barriers during the implementation stage of the intervention are described below.

The first concern when idealizing the program was to make it accessible to every eligible individual that volunteered to participate in the program. By 2019, according to the Pew Research Center, 96% of Americans possessed a cellphone and 81% of those people owned a smartphone (www.pewresearch.org/internet/fact-sheet/mobile). The widespread use of smartphones in the U.S. facilitates the distribution of this app-based eHealth program. The TEAM program participants were encouraged to use the Nike Training Club (NTC) and the Nike Run Club (NRC) applications, both could be downloaded free of cost from any application marketplace. The ease with which the participants could operate the mHealth apps and the 'whenever-wherever' characteristic of the program should have helped participants overcome several barriers. The PI introduced the apps during the recruiting presentation to quickly show how simple and intuitive they are to the user. The PI placed detailed instruction about the apps on the program's official website, more specifically, in the *App Instructions* tab, where participants had the option to view step-by-step text instructions and an instructional video.

The second concern was how to promote a wellness initiative without making it appear too intense for physically inactive adults or too light for the more active individuals. Since TEAM is a program intended for school employees with varying levels of fitness, the researcher

selected this application because it provided a comprehensive array of PA content for beginners, intermediates, and experts. All participants could quickly create an account and browse through an extensive exercise library tailored to the participants' fitness level (see *Activity* for information on exercise choices). The goal for the TEAM program was to increase weekly PA minutes but it did not limit the participants' choices for activity. By giving participants the freedom to choose the activity, the program avoided potential barriers linked to participants' *self-efficacy*.

The third concern related to helping participants keep track of their completed bouts of PA. Two systems were adopted to collect this information. First, once participants completed any workout guided by any of the suggested apps, the total time and type of PA was automatically recorded and posted on their activity feed. This *feed* was then accessible by any person who the participant had befriended through the app. Participants could manually add any bouts of PA that they completed without using the apps. The second and more cumbersome system involved the TEAM captain sending scheduled requests to participants to input their PA minutes in the data spreadsheet provided separately to each one. Figure 4 shows a sample of the spreadsheet shared between the PI and TEAM captain. Each participant received the table that corresponds with their assigned number which increases anonymity.

Figure 4

Summary of PA spreadsheet used by the PI and TEAM captain.

	Participant 1 - Weekly Summary of Physical Activity							Total # of minutes
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Week 1 (MM,DD-MM,DD)								
Week 2 (MM,DD-MM,DD)								
Week 3 (MM,DD-MM,DD)								
Week 4 (MM,DD-MM,DD)								
Week 5 (MM,DD-MM,DD)								
Week 6 (MM,DD-MM,DD)								

	Participant 2 - Weekly Summary of Physical Activity							Total # of minutes
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Week 1 (MM,DD-MM,DD)								
Week 2 (MM,DD-MM,DD)								
Week 3 (MM,DD-MM,DD)								
Week 4 (MM,DD-MM,DD)								
Week 5 (MM,DD-MM,DD)								
Week 6 (MM,DD-MM,DD)								

	Participant 3 - Weekly Summary of Physical Activity							Total # of minutes
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
Week 1 (MM,DD-MM,DD)								
Week 2 (MM,DD-MM,DD)								
Week 3 (MM,DD-MM,DD)								
Week 4 (MM,DD-MM,DD)								
Week 5 (MM,DD-MM,DD)								
Week 6 (MM,DD-MM,DD)								

Activity

Not all school employees had the *Self-Efficacy* to participate in physical activity. In this case, having a trusted source or a role model to lead the physical activity served as a key component in the program. The NTC app offered over 200 different workouts led either by a fitness expert or a celebrity athlete. These workouts and exercise plans were suggested to the individual based on his or her current level of fitness. At any level of fitness, the participants had the option to choose from a variety of trainer-led classes, athlete-led workouts, pre-designed workouts of various lengths (8-60min), and to build their own workouts. Participants had the freedom to complete single workouts (or classes) and repeat it or switch to a new choice the next time they used the app. This mHealth app offered 4- to 6-weeks programs which were built to match the participants fitness level and each program compiles different exercises per session. The number and length of sessions were suggested by the app; however, school employees were able to modify any workout to suit their level of fitness or skill ability. All the exercises were first demonstrated by a video to allow the individual to observe the proper form, equipment and space needed, and details about the exercises. Once the short video was finished, the app prompted the user to be ready to start exercising and the video started again with the timer displayed on the screen. Throughout any single exercise video or classes, the instructor engaged with the participant by giving cues about proper performance and motivational prompts just as a live trainer would do.

Motivation

This program component involved all the internal and external forces that incite an individual to take action (*Cues to Action*). Internal forces included realization of undesired level of overall wellness and motivation to improve physical or mental health. External forces included receiving reminders from the TEAM captain and praise from other participants through messages

or feedback on the apps. Words of encouragement could also be sent through posts on the program's website. The PI posted relevant health-related facts on the website to frame participants' knowledge around the benefits of taking the suggested action. These constant external reminders should have helped with habit-formation within the six-week long program.

TEAM Captain

The role of the TEAM captain mirrored that of the Wellness Champion (Lane et al., 2018) version suggested by the CSPAP framework (i.e., Physical Activity Leader [PAL]; CDC, 2013). In some cases, schools already have a Wellness Coordinator whose responsibilities include promoting PA and other health-related habits. Traditionally, the role of 'in-house health expert' has been attributed to the health and PE teacher (Kim & Gurvitch, 2020). However, Lane et al. developed a protocol and described the details of how to prepare any staff or faculty member to serve as the "Wellness Champion for Change." The process for selecting the TEAM captain was as follows: once the school's principal granted permission to conduct the study with their school's employees, the PI asked the principal to suggest a point-of-contact most suitable to be the study liaison; the PI contacted the appointed professional to request her acceptance of the role. Once the TEAM captain was identified, the PI hosted an online meeting to deliver one 1-hour training session. During this training session, the PI explained the expectations for the role of captain, showed how and when to send messages to participants, explained how to manage the spreadsheet to collect PA minutes from participants or the apps, determined a schedule for weekly meeting to ensure protocol loyalty, and discussed issues the captain might be aware of, i.e., employee(s) may have tested positive for COVID-19. The TEAM captain had an open channel to communicate with the PI at any time to clarify concerns or any questions from participants. The TEAM captain served as the communication hub within the school, connecting the

participants to others and to the PI. The captain was responsible for sending tailored messages (see PAM below) to the participants on predetermined days or at the captain's discretion based on daily interactions with participants.

Personal Accountability Message (PAM)

The PI linked BCTs with HBM constructs and formulated PAMs with aim to positively influence participants in all three program components. In 2015, researchers conducted a 4-week habit formation study that aimed to connect the presence of reminders and positive reinforcement with higher levels of automaticity (Stawarz et al., 2015). Researchers suggested that reminders influenced habit formation and that research-based positive reinforcement (i.e., BCTs and mechanisms of action) could potentially influence behavior change. The PAMs developed by the PI were grouped by categories (see Appendix A) and were delivered via text message, email, and suggested apps to participants at least once a week. As part of the TEAM captain's training, the PI informed the captain of the schedule for sending the PAMs. The captain could send unscheduled PAMs that may apply to individual circumstances related to participants' on-going psychosomatic state (i.e., fatigue, body pain, soreness, stress, lack of motivation, boredom, mood, etc.).

According to the links established between *perceived benefits* and BCTs, the PI planned to deliver evidence-based facts to the participants through PAMs and the program's website (described below). The plan to share facts about the effectiveness of PA in reducing the risk of developing chronic illnesses should have increased the participants' perceived benefits for adopting the suggested behavior. Participants were informed of these facts weekly and, whenever appropriate, the TEAM captain sent participants suggestions about PA challenges which were facilitated by the apps.

TEAM Program Website

The PI developed a website (http://sites.gsu.edu/mlima4/) for participants to have a centralized online location for all the information related to the TEAM program. This tool promoted another means of communication with participants. There was a video on the website's homepage welcoming participants to the TEAM program. Through different tabs, participants easily navigated through the website and could find detailed program description, posting of information related to the research, clarification to concerns with Q&A section, step-by-step instructions on how to use the NTC and NRC applications, a blog page for participants to leave comments or suggestions, information about nearby locations that are publicly accessible, and links to online health-related material.

Implementation Fidelity

Implementation fidelity is known as the degree to which a program (i.e., intervention) is delivered as it was intended with hopes to minimize the possibility of a Type III error during the data analysis process (Hasson et al., 2021; Leonard et al., 2022; see also Dane & Schneider, 1998; Dusenbury et al., 2003). This concept is sometimes referred to as "integrity" in the literature describing or reviewing innovative program implementation (Dane & Schneider, 1998). The transferability and generalizability of a behavior change program relies on the integrity of the intervention components being implemented as planned (Dane & Schneider, 1998). A higher level of integrity with program's implementation increases support to claims that attribute changes to the dependent variable based on manipulation of the independent variable (Gresham, 1989). Otherwise, as Mihalic (2004) stated, "a high quality implementation of a poor program may be more effective than a low quality implementation of a best practice program" (pg.1).

These are five components when considering implementation fidelity: adherence, exposure, quality of program delivery, participant responsiveness, and program differentiation (Dane & Schneider, 1998; Mihalic, 2004). It is important that researchers verify the fidelity to the implementation of a behavior change wellness program, not only to enhance the research's outcomes generalizability, but also to avoid reduced efficacy (Dane & Schneider, 1998). Previous literature has defined the five components as follows:

- adherence, whether the program or intervention is delivered as it was designed originally;
- exposure (i.e., dosage), refers to the amount of a program participants received, the frequency with which techniques were delivered or duration of intervention lasted as prescribed;
- quality of program delivery, means the manner in which a volunteer teacher or staff member delivers the program by using techniques prescribed by the program designers with enthusiasm, preparedness, and attitude;
- participant responsiveness, refers to the extent participants engage in the activities and content offered or prescribed by the program; and
- program differentiation, means to identify program's components unique features and identify which components are essential to program's effectiveness (Carroll et al., 2007; Dusenbury et al., 2003; Mihalic, 2004).

Interestingly, during the review of literature on implementation fidelity, there were two evident sides about implementation fidelity and how it should be measured. One side argues that all five components should be evaluated to capture implementation fidelity's "complete picture," whereas the other side argues that each of the components offers an alternative way to evaluate

fidelity giving more flexibility to program designers to address circumstantial needs (Carroll et al., 2007; Dusenbury et al., 2003). Therefore, when introducing an innovative program, researchers should carefully pay attention to implementation fidelity to increase internal validity before confirming that changes in outcomes can be attributed to program's effectiveness (Dane & Schneider, 1998). Therefore, for the present study the PI evaluated some components separately and addressed such evaluation in the Discussion section.

Part 2: Program Implementation

Mixed Method Design

The second part of this study was to investigate in what ways the TEAM PA program impacted urban school employees. The researcher used an intervention mixed method design, which combined an intervention with one of the basic designs, the sequential explanatory structure, as described by Creswell (2015). The sequential explanatory design (Fetters et al., 2013) consisted of two distinct phases, 1) researcher collected quantitative data, and 2) researcher collected in-depth qualitative data (Ivankova & Stick, 2007). Creswell defined this combination of a basic mixed method design with an experiment as an advanced design. The in-depth semi-structured interviews provided additional data that helped explain with more details urban school employees' opinion about the program, its impact, and its feasibility. This mixed method design ensured that the strengths of one methodological approach offset the weaknesses of the other (Fetters et al., 2013).

The researcher intended to combine the strengths of quantitative and qualitative research methods to answer the research questions (Creswell, 2005). In other words, either research method will not have sufficient strength, by itself, to capture and provide the desired understanding of the health issues urban school employees face nowadays. Different data types may support

or complete each other increasing the validity and trustworthiness of the research findings (Creswell et al., 2003; Teddlie and Tashakkori, 2009).

Phase 1. The numeric data was collected pre- and post-intervention and analyzed before the second phase started. The first phase attempted to numerically verify if the TEAM PA program influenced urban school employees' opinions on barriers to being physically active, the type of motivation towards PA, and the stress caused by the relation between their efforts and rewards in their jog setting. The intervention took six weeks to complete, and participants received the link for the post-intervention survey via email. The PI had to contact some participants individually several times to request the completion of the post-survey, and the PI extended the time for collection of responses by one week.

Phase 2. The second phase consisted of in-depth interviews with conveniently selected participants. The sampling approach (Creswell et al., 2003) gave the second phase the flexibility the study required and the richness of information for the semantic deductive thematic analysis (Caulfield, 2019; Braun & Clarke, 2013) needed to elaborate on the statistical results with more details. The preponderant in-depth information obtained in the second phase of this study helped explain the results collected and analyzed in the first phase. Figure 5 shows the priority structure in this study based on Morse's (1991) notation system, and Figure 6 shows when qualitative and quantitative data were integrated (Steckler et al., 1992). The researcher used the embedding method to integrate and link both sets of data collected and analyzed (Fetters et al., 2013). According to Fetter et al., integration through embedding post-trial "can be used to explain outliers, debrief subjects or researchers about events or experiences that occurred during trial, or develop hypotheses about changes that might be necessary for the widespread implementation outside of a controlled research environment" (p. 2141).

Figure 5

Visual Representation of the Intervention Mixed Methods Design

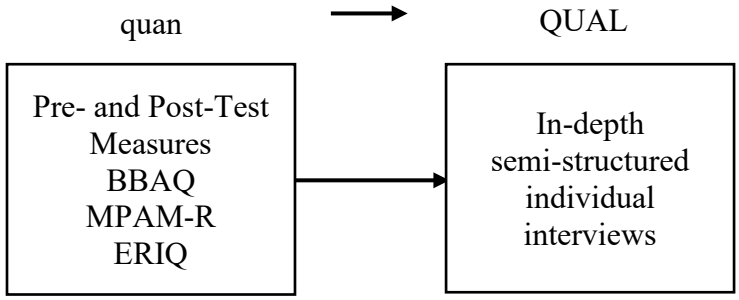
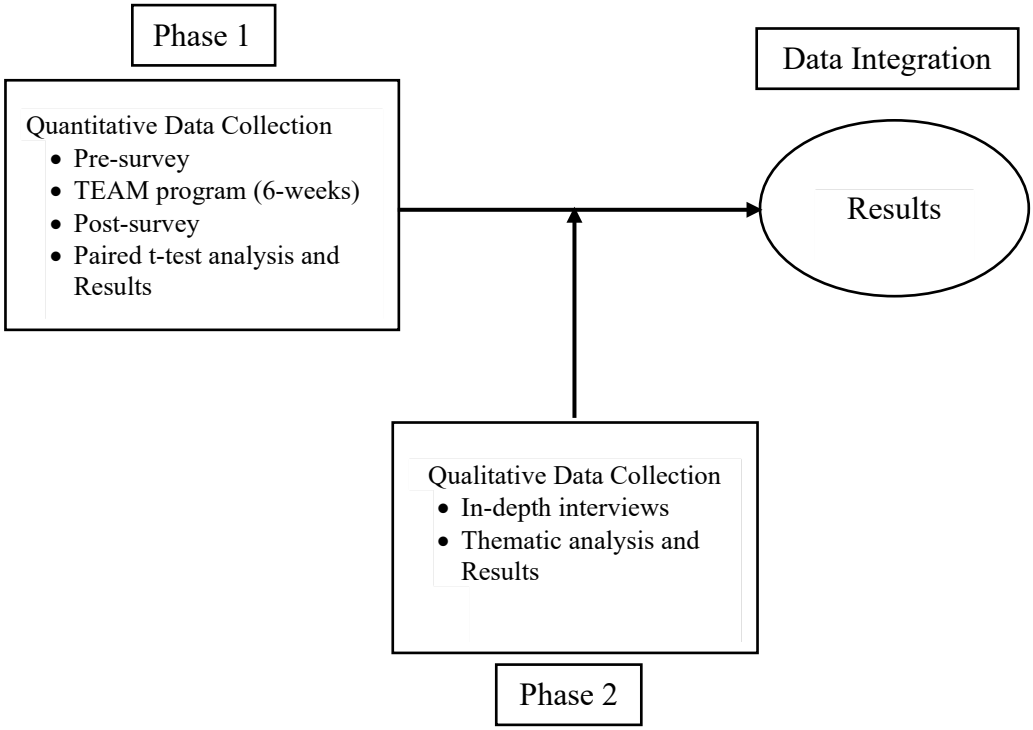


Figure 6

Visual Model for the Intervention Design with Data Integration at the Results Level.



Participants and Recruitment

The researcher used email to contact the principal of one school located in the urban area of a southeastern capital in the U.S. The total number of employees in that school was approximately 100 and teachers represented 70% of that number. The researcher selected this school for the convenience (Fink, 1995) of getting to know some of the staff and faculty members during previous visits to the school. As the inclusion criteria, volunteers were required to be employees at that school and be willing to participate in this study. Volunteers were excluded from the study if they did not 'pass' the screening criteria (PAR-Q, described below), terminated employment during the intervention trial, or became incapacitated and were not capable of continuing with the program. Study participants that completed pre- and post-surveys and participated in the individual interviews received financial compensation in the form of gift cards. According to Neutens and Rubison (2002), incentives may increase the number of participants or item response rates. The PI requested a list of email addresses from the school administration once ethical approval was granted by the institution's IRB committee.

The researcher sent a welcoming text and a brief introduction to the TEAM PA program with the recruitment email to school employees. The email contained a link to the pre-study survey. By clicking on the link, school employees were securely redirected to an external website to complete the informed consent form and the pre-survey. Surveys are the most widely used form of data collection because of their low cost, self-administration, improved anonymity (Isaac & Michael, 1995), and, with online surveys, volunteers can complete it at their own pace and comfort. The average time it took participants to complete the pre-survey was approximately 15 minutes. Beyond the informed consent form, the pre-survey included the following: 1) Demographic information, 2) Barriers to Being Active Quiz, 3) Motives for Physical Activity Measure,

4) Effort-Reward Imbalance Questionnaire (ERIQ), and 5) Physical Activity Readiness Questionnaire (PAR-Q; Thomas, Reading, & Shephard, 1992). The average time it took participants to complete the post-survey was 10 minutes since it did not include the informed consent form and the PAR-Q. Table 2 summarizes the steps taken by urban school employees from recruitment to participation in the program.

Table 1

Process for Participants in the TEAM PA Program

	Step-by-Step Description of Process
Recruiting	Email is sent to all school employees. After reading the recruiting email, employee chooses to volunteer for the study by selecting the "I DO" button included with the text.
	Volunteer is directed to pre-survey and must complete the informed consent form and accept terms of participation to continue with survey.
Eligibility	Volunteer must meet all criteria posited by the screening tool PAR-Q for inclusion.
Selection	A maximum of 15 volunteers will be selected to participate in the interviews.
Participation	Once pre-survey data is collected, participants will receive an email briefing what they are expected to do throughout their participation in the program. There will also be a welcoming video to the program which will be available on YouTube and in the program's website (http://sites.gsu.edu/mlima4/).
	On the website, there will be PowerPoint and video instructions for those participants that decide to use the suggested apps for recording their bouts of PA.
	If participants choose not to use the apps, they will be asked to enter their daily minutes of PA on a spreadsheet which the PI and TEAM captain will manage.
	TEAM captain will prompt participants to partake in some type of PA by sending text messages, emails, or through posts on NTC and NRC activity feeds.
	At the end of six weeks, participants will receive an email with the post-survey. The email will also remind those that volunteered to be in the 2nd phase of the study that the interviews will start the week following the end of the program.

Instruments

Demographic questions. Participants answered a series of questions (i.e., gender, age, marital status, highest degree earned, etc.) during the pre-survey. These modifying factors can be demographic, structural, and socio-psychological types of independent variables and might indirectly influence behavior (Janz & Becker, 1984). Among other relevant information, participants were asked to share their height and weight (i.e., to calculate Body Mass Index – BMI).

Barriers to Being Active Quiz. The BBAQ is a publicly available measure developed by the CDC (1999) and it consists of 21 items that provide answers to the question "What keeps you from being more active?" It is easy to administer, and it takes the approach from the modifiers to activity participation (e.g., internal and external barriers) rather than a physiological or bodily approach (e.g., acute or chronic physical impediments). There are seven categories with three items related to each of them. These are examples of category items: Lack of time "My free times during the day are too short to include exercise."; Social influence "My usual social activities with family or friends do not include physical activity."; Lack of energy "I'm just too tired after work to get any exercise."; Lack of willpower "It's easier for me to find excuses not to exercise than to go out to do something."; Fear of injury "I'm getting older so exercise can be risky."; Lack of skill "I'm not good enough at any physical activity to make it fun."; and Lack of resources "If we had exercise facilities and showers at work, then I would be more likely to exercise." The BBAQ identifies the internal barriers as lack of time, lack of energy, lack of willpower, fear of injury, and lack of skill, and the external barriers as social influence and lack of resources. Items are answered in a Likert-scale ranging from 0 (very unlikely) to 3 (very likely), and then added to provide a total category score, for a maximum score of 9. Any of the BBAQ categories that receive a total score of 5 or greater are considered "critical" barriers. In two studies (Zalewski et al.,

2014; Rubio-Henao et al., 2015) that examined the reliability of the BBAQ, researchers found the Cronbach's alpha coefficient to be high, ranging from .81 to .92.

Motives for Physical Activity Measure – Revised. Ryan et al. (1997) developed the MPAM-R and researchers used the self-determination theory (SDT; Deci & Ryan, 1985) as the theoretical background. The theory discusses how an individual's decision to, in this case, be physically active is influenced by the balance between extrinsic (e.g., prompts, rewards, punishment) and intrinsic (e.g., interest, enjoyment, inherited satisfaction) motivation placed in a continuum (Ryan & Deci, 2000). This revised version of the instrument measures the importance and interaction of each of the factors and by balancing intrinsic and extrinsic motivation. The scale is composed by 30 items divided into five factors: 1) fitness, 2) appearance, 3) competence/challenge, 4) social, and 5) enjoyment. Fitness (5 items) relates to the individual's motives to being physically active out of his or her desire to be healthy, strong, and energetic (e.g., Because I want to have more energy). Appearance (6 items) relates to an individual's motives for being physically active to improve physical attractiveness and to achieve or maintain a desired weight (e.g., Because I want to lose or maintain weight, so I look better). Competence or Challenge (7 items) relates to motives which connects with individual's desire to acquire or improve a skill and to meet or complete a challenge (e.g., Because I want to obtain new skills). Social (5 items) relates to individual's motives for engaging in PA to be with friends or meet new people (e.g., Because I want to be with my friends). Enjoyment (7 items) relates to motives for being physically active because it makes the individual happy, and it is fun, interesting, stimulating, and enjoyable (e.g., Because it is fun). Items are answered on a 7-point Likert-scale (1 "not at all true for me" to 7 "very true for me"). To score the MPAM-R, item scores for each factor are added and maximum scores represent that individual's motivation to being physically active is

highly dependent on those factors. The scale carries acceptable psychometric properties with Cronbach's alpha ranging between 0.78 to 0.92.

Effort-Reward Imbalance Questionnaire. The ERIQ was developed for researchers to better understand the relationship between working individuals and the three psychometric scales: effort, reward, and overcommitment (Siegrist et al., 2004). The model (Siegrist, 2017) for the questionnaire assumes that when individuals' expectations about the adequate exchange between effort and reward are violated then these experiences cause stress. The model combines extrinsic factors (e.g., effort imposed by demands and obligations) with intrinsic factors (e.g., reward as in financial remuneration, job promotion and security, and social status and job esteem) and a third component that is also intrinsic (e.g., overcommitment which moderates the mismatch between effort and reward through coping and desire to be in control). The ERIQ has been widely used and proven reliable with Cronbach's alpha consistently greater than 0.70 for the original (long) version of the tool. This will be the version used in this study and it consists of 22-items, where six items are from the effort scale (ERI 1 to ERI 6; ex: "I have constant time pressure due to a heavy work load."), ten items are from the reward scale (ERI 7 to ERI 16; ex: "I experience adequate support in difficult situations."), and six items are from the overcommitment scale (OC 1 to OC 6; ex: "As soon as I get up in the morning I start thinking about work problems."). For all statements, possible responses lie on a 4-point Likert scale ranging from "Strongly Disagree" (scored as 1) to "Strongly Agree" (scored as 4). The following items are coded in reverse: ERI 9, 10, 11, and 12 (Reward Scale) and OC3 (Overcommitment Scale). There are three subscales of the Reward scale: Esteem (items ERI 7-9 and ERI 14), Promotion (items ERI 10, 13, 15, 16), and Security (items ERI 11 and 12).

There are two steps for scoring the ERIQ and consequently make inferences on what those scores mean to the sample. First, researchers must calculate each scale scores by adding the respective items. The total scores for each scale range from 6 to 24 (Effort), 10 to 40 (Reward), and 6 to 24 (Overcommitment). For Effort, the higher the score, the more effort is experienced by the individual. For Reward, a score towards the low end of the range means that the individual receives low levels of reward. For Overcommitment, the higher the score, the more overcommitted the individual feels towards his or her work. A high effort, low reward, and high overcommitment scores are singularly considered risk factors for a decrease in health (Siegrist, 2017). The second step is to calculate the Effort-Reward (ER) ratio for the sample and, if needed, for sub-groups (e.g., gender, age group, highest degree earned, etc.). The formula for calculating the ratio is $ER=k*(E/R)$; where, E is the Effort score, R is the Reward score, and k is the correction factor for the uneven number of items between the scales (ex: 10/6=1.67).

Physical Activity Readiness Questionnaire. The PAR-Q is a health-screening questionnaire designed for individuals that are planning to participate in any type of physical activity program, from light to vigorous intensity. The questionnaire is comprised of seven YES or NO items that call for individuals' self-evaluation (e.g., Do you feel pain in your chest when you do physical activity?). The only eligibility requirement for participating in the TEAM program is to satisfy this screening tool by matching each criterion. Those participants that are not cleared by the PAR-Q may provide their personal physician's notice stating that the individual is safe for participating in the TEAM program.

Data Collection

Phase 1

This part consisted of the collection of quantitative data through participants' responses to instruments selected. Item non-response, when respondent does not answer all items is a survey, can introduce bias which, in turn, can skew the results of that instrument, especially when the sample is small (Fink, 1995). Researchers had planned to exclude from analysis the instruments where participants did not respond to at least 70% of items. Researchers had also planned to remove specific participant's responses from subscale analysis if items within the subscale were left without answers. In addition, any item that received an overall response rate of less than 70% would have been removed from all analysis. Besides offering the gift cards, researchers applied other strategies, discussed by Dillman and colleagues (2014, pp. 27-32), to increase response rates among participants. The names of participants, email addresses, and any personal information (e.g., demographics, etc.) shared in the survey were managed only by the PI and research team. The PI followed the protocol described in the IRB process and consent form, and all personal information was encrypted and protected by the university's cyber security systems.

The PI attempted to quantitively answer RQ1 by collecting the results from BBAQ to measure the impact of the intervention on outcomes correlated to participants' perceived barriers. The PI attempted to answer RQ2 by collecting the results from MPAM-R to measure the impact of the intervention on outcomes correlated to participants' motivation towards physical activity. The goal was to match the measurement of urban school employees' intrinsic and extrinsic motivation with their perception of internal and external barriers. Hence the need to explore the qualitative data to find more detailed information from each participant. The ERIQ results gave a numeric understanding of the impact of the TEAM PA program on urban school employees' levels of burnout caused by the stress stemming from their job.

Phase 2

This part started in the week following the end of Phase 1, marked by the collection of survey responses. The PI sent an email reminder to the list of school employees that opted to participate in the individual semi-structured interviews. The PI conducted the interviews via Webex (an online platform) and each interview was approximately 60-minutes in length. Interview participants were addressed by a codename to help protect their identities. They all agreed to be video, and audio recorded. They understood that they could stop the interview at any point without having to give any specific reason. The Webex platform facilitated transcription due to its speech-to-text technology applied during the recordings.

The conveniently selected sample answered questions that followed the underlying concepts of the quantitative instruments. By framing the interview questions on each of the instruments, the PI aimed to better support the quantitative data and understand the program's impact on urban school employees. The PI devised a total of 15 interview questions where each was related to a subscale or factor of the instruments used in Phase 1. The breakdown of the interview questions was as follows: seven related to BBAQ, five related to MPAM-R, and three related to ERIQ. The PI aimed to establish validity to any subsequential inference by attempting to triangulate the sets of data that have the same theme.

The PI maintained a pre-prepared document for each interview participant containing the questions and space for hand-written remarks. The PI created electronic files and folders as well as paper copies for each of the interviews to facilitate organization and data analysis. Please refer to Appendix C for a general structure of the interview protocol.

Data Analysis

Phase 1

This researcher applied a one group pre-test post-test design and used paired sample t-tests to compare the mean scores. The hypothesis was that the difference between the means would be different than zero. The PI assumed that the TEAM program would not discourage participants from being physically active or that it would not add stress to urban school employees. The four main assumptions from a paired sample t-test analysis were congruent with the characteristics of the data: a) the dependent variables must be continuous, either interval or ratio; b) the observations are independent from each other; c) the dependent variables should be normally distributed; and d) the dependent variables do not contain outliers. Since the sample was small, it was necessary to test for normality; therefore, the PI checked for normality by using the Shapiro-Wilk and Kolmogorov-Smirnov tests. The effect sizes were calculated using Cohen's D to measure how large or small the existing differences may be between mean scores. It is common practice for pilot studies to set power to 0.80 (Cohen, 2013). When performing a sudo-power analysis with the GPower calculator, the PI found the number of participants to obtain the desired power of 0.80 to range between 12 and 27 with the effect sizes 0.50 and 0.80, respectively. The PI compared the effect sizes with the suggested levels of 0.2 (small), 0.5 (medium), and 0.8 (large) and found those to be between medium and large for this study (Cohen, 2013). An alpha level of .05 was set for the statistical analysis. The PI conducted an upper-tailed t-test analysis to increase the power of the test. The researcher used SPSS to run statistical calculations (version 24, IBM Corp).

Phase 2

The PI followed the step-by-step guide developed by Braun and Clarke (2006), as listed here: 1) familiarize yourself with the data, 2) generate initial codes, 3) search for themes, 4) review themes, 5) define and name the themes, and 6) produce the report. A deductive thematic

analysis provided the framework for qualitative data analysis. By doing so, the PI was able to look at the data in a critical (realist) way and analyzed the responses in a straightforward manner. Therefore, the PI semantically approached the interpretation of participants' responses to questions, especially when discussing the impact of the TEAM program. However, the PI also made active choices when engaging with the data to adhere to the suggestion made by Braun et al. (2016). Researchers suggested that deciding on a thematic approach is not a choice of either one or another and, that in practice thematic analysis, most likely, includes deductive and inductive, and latent and semantic elements (p. 191). Indeed, the qualitative data collected during the second phase of the study (after the post-intervention survey) helped confirm the results from the comparison between pre- and post-surveys; therefore, solidifying the use of an explanatory sequential design within the intervention design.

Participants' responses were grouped according to each related research question. For triangulation purposes, the PI supported the quantitative analysis with school employee's answers to the seven BBAQ (RQ1), five MPAM-R (RQ2), and three ERIQ (RQ3) interview questions. For example: there were 11 interview participants, therefore 11 sets of answers related to RQ1 (77 answers), 11 sets of answers related to RQ2 (55 answers), and 11 sets of answers related to RQ3 (33 answers).

The PI, a committee member, and a fellow doctoral student separately went through the steps described earlier and then compared the list of themes each one developed. The minimally accepted agreement percentage for inter-rater reliability was set at 75% (Saldaña, 2021), and was calculated by using the formula suggested by Miles and Huberman (1994):

$$Reliability = number\ of\ agreements \div (number\ of\ agreements + disagreements)$$

Once the 75% level of agreement is reached, the PI will continue with step six as explained by Braun and Clarke (2006). Data integration will happen once all the analysis is complete.

Trustworthiness and Positionality

This mixed methods study aimed to analyze the impact of a wellness initiative on urban school employees' barriers towards PA, motivation towards PA, and notions of job-related stress. To ensure reliability and validity of quantitative findings, the researcher used three validated survey instruments for data collection, and constantly checked for inconsistencies as survey responses were transferred from survey management system (Qualtrics) to analytical software (SPSS). Furthermore, these tools informed the development of semi-structured interview guides, which in turn provided the framework for the deductive thematic analysis (Nowell et al., 2017). This intentional process guaranteed a smooth triangulation and increased the credibility of the study's qualitative findings (Connelly, 2016). Due to time restrictions, the researcher anticipated being unable to conduct member checks (i.e., asking participants to review their answers to interview questions after the interview had ended). Therefore, the researcher decided to use subsequent or probing questions during interviews when participants did not fully address the questions, seemed confused by the questions, or were unclear with their responses (Shenton, 2004). As for transferability, the researcher made the effort to provide a thick description of the encounters with participants and their demeaner during the interview. To achieve confirmability, the researcher organized all raw data (e.g., verbatim transcripts) into specific electronic folders, collected process notes on a notebook, and asked for a colleague and experienced researcher to analyze the data separately. In addition, the researcher met regularly with a committee member to discuss data analysis and findings. The meetings with committee members also served as audit

trails which allowed this research study to achieve dependability. The researcher routinely explained to committee members the research process used to collect and interpret the findings (Connelly, 2016; Shenton, 2004).

Rigor in reporting qualitative findings required that this researcher describe his positionality which should allow the reader a better understanding of the researcher's implicit biases (Nowell et al., 2017). Thus, the researcher inherently approached the research questions with the belief that PA is a good thing, and that PA is important to the researcher's life. Inevitably, the researcher arrived at this research path and, with the mentorship of this committee' chair, its members, and other vital influences, created the TEAM wellness initiative. The researcher is a white, middle-aged father, of Latino descent whose cultural background is deeply rooted in his home country, and whose perspective may differ from or contrast with the study participants regarding research questions.

The researcher made every attempt to ensure that the identities described above did not impact the analysis of the data or the interactions with study participants. Such attempts included using evidence-based information when communicating with participants, sticking to study protocol during interviews rather than giving personal opinion, recruiting a second coder with different perspectives, and reflective notetaking and exhaustively discussing findings with committee members.

Results

The purpose of the second part of this study was to investigate in what ways the TEAM PA program would impact participants' barriers towards being physically active, motivations to-

wards being physically active, and job-related stress. This section presents a summary of participants' demographics, followed by quantitative and qualitative results under each of the three related questions. The section then closes with the inductive analysis of themes that emerged from the qualitative data. The integration or *mixing* of data through the embedding method is discussed in the Discussion section.

Sampling and Recruitment

The study population was the combined workforce of staff and faculty for the targeted school (n=100). The recruiting email was sent to all school employees, and 23 school professionals responded to the pre-survey (23% response rate) after the extended recruiting period. The PI decided to extend the recruiting period by one week to allow individuals (n=4) who were having technological issues to complete their online surveys. All 23 participants fully completed their pre-study surveys (T_1). One participant decided to withdraw from the study during the second week of the program due to overwhelming work-related responsibilities. The PI offered to reimburse this participant, even without recording their minutes of PA, for completing the post-study survey and participating in the individual interview. However, the participant did not respond to any subsequent emails. Of the 22 remaining, 15 participants fully completed the post-survey (T_2) after the 6-week wellness program. Therefore, at the end of quantitative data collection, there were 15 matched pairs of survey responses. As for the qualitative part, the PI conducted 11 semi-structured interviews with participants that completed both pre- and post-surveys. The average length for the web-based interviews was 42 minutes (range of 32 to 57 minutes). The PI interviewed the school's top administrator and the TEAM captain who gave some insightful information from their exclusive perspectives.

Participant demographics

The average age of study participants was 39.2 years (range of 29 - 63 years). For inferences made in the Discussion section, the PI divided the sample into age subgroups, where <40 (n=9), 40≤X<55 (n=4), and ≥55 (n=2). The majority of the sample was highly educated (86.7%, n=13) achieving at least a graduate degree, female (80%, n=12), and African American (60%, n=9). It is noteworthy that, at baseline (T_1), seven participants had a BMI score at or above 30, which places them in the obese category, and the remainder were evenly distributed between overweight and healthy categories (μ=30.3). At follow-up (T_2), there were six participants in each obese and overweight categories and three in the healthy category (μ=30.5). All demographic information is displayed in Table 2**.**

Table 2

Demographic Characteristics (n=15)

Characteristic	*n*	*%*
Gender		
Female	12	80.0
Male	3	20.0
Age		
< 40	9	60.0
40 ≤ X < 55	4	27.0
≥ 55	2	13.0
Race/Ethnicity		
African American	9	60.0
White	4	27.0
Hispanic/Latino	1	6.5
Multiracial	1	6.5
Education		
Bachelor's	2	13.3
Graduate	13	86.7
Marital Status		
Single	7	46.7
Married	5	33.3
Widowed	1	6.7
Divorced	2	13.3
Function		
Staff	7	46.7
Faculty	6	40.0
Admin	1	6.6
Other	1	6.6
Characteristic	*M* (T_1; T_2)	*SD* (T_1; T_2)
Height (inches)	65.80; 65.80	4.41; 4.26
Weight (pounds)	187.53; 189.20	51.09; 55.69
BMI	30.3; 30.5	6.46; 6.83

Research Question #1

How does participation in the TEAM PA program influence urban school employees' perceived barriers to being physically active?

Quantitative findings. The questions on the BBAQ measure addressed seven categories of perceived barriers for participants engaging in or increasing levels of PA (3 items per category). Each of the 21 items answered the question "What keeps you from being more active?", in a Likert-scale ranging from 0 (very unlikely) to 3 (very likely). Therefore, if the sum of the items for any of the seven categories (ranging from 0 to 9) was equal to five or more, then such barrier was categorized as an important barrier to the participant, according to BBAQ scoring instructions. A decrease in mean scores indicates an improvement, i.e., the less important the barrier(s) becomes between baseline and follow-up.

The total mean BBAQ score for the sample (n=15) at T_1 was 24.27 (SD=11.90), and the total mean score at T_2 was 20.73 (SD=11.45). The paired sample t-test analysis of the difference between the mean scores after the 6-week wellness program was statistically significant (M_{T1-T2}=3.53, SD_{T1-T2}=7.12, t=1.92, p=.038). Alpha was set at .05 for an upper-tailed analysis. This indicates a statistically significant reduction in total barriers to PA after program completion.

Lack of Time (LOT). The comparison of mean LOT scores showed an improvement between T_1 (M_{T1}=4.47, SD_{T1}=2.39) and T_2 (M_{T2}=4.27, SD_{T2}=2.52). The LOT category was not considered an important barrier according to this sample's scores since the averages remained under the threshold value of 5 at both T_1 and T_2. The upper-tailed t-test showed that mean LOT scores did not differ significantly between T_1 and T_2 (M_{T1-T2}=.20, SD_{T1-T2}=2.11, t=.37, p=.360). Pre- and post-LOT scores were significantly correlated (r= .63, p=.006).

Social Influence (SI). The comparison of mean SI scores showed an improvement between T_1 (M=3.27, SD=1.91) and T_2 (M=2.73, SD=2.25). The SI category was not considered an important barrier according to this sample's scores since the averages remained under the threshold at both T_1 and T_2. The t-test analysis showed a non-significant mean difference (M_{T1-T2}=.53, SD=1.64, t=.1.26, p=.114). Pre- and post-scores were significantly correlated (r=.70, p=.002).

Lack of Energy (LOE). The comparison of mean LOE scores showed an improvement between T_1 (M=5.73, SD=2.69) and T_2 (M=4.87, SD=2.45). LOE was categorized as an important barrier at the start of the study (mean > 5), but after the 6-week program, this barrier was no longer categorized as important (mean < 5). The t-test analysis showed a non-significant mean difference between T_1 and T_2, (M_{T1-T2}=.87, SD_{T1-T2}=1.96, t=1.71, p=.054). Pre- and post-scores were significantly correlated (r= .71, p =.001).

Lack of willpower (LOW). The comparison of mean LOW scores showed an improvement between T_1 (M=5.33, SD=2.97) and T_2 (M=4.13, SD=2.56). LOW was categorized as an important barrier at the start of the study (mean > 5), but after the 6-week program, this barrier was no longer categorized as important (mean < 5). The t-test analysis showed a statistically significant difference between T_1 and T_2, (M_{T1-T2}=1.20, SD_{T1-T2}=2.21, t=2.10, p=.027). Pre- and post-scores were significantly correlated (r=.69, p=.002).

Fear of injury (FOI). The comparison of mean FOI scores showed an increase in values between T_1 (M=.80, SD=1.01) and T_2 (M=1.07, SD=1.62). The FOI category was not considered an important barrier according to this sample's scores since the averages remained under the threshold at both T_1 and T_2. This was the only category that showed an increase in means between T_1 and T_2. The t-test analysis showed that this increase was not statistically significant

(M_{T1-T2}=-.27, SD=.88, t=-1.17, p=.131). Pre- and post-scores were significantly correlated (r=.88, p<.001).

Lack of skill (LOS). The comparison of mean LOS scores showed an improvement between T_1 (M=1.40, SD=1.64) and T_2 (M=.93, SD=1.16). This barrier as not categorized as important, since means remained well below the threshold. The t-test analysis showed a statistically significant difference between T_1 and T_2, (M_{T1-T2}=.47, SD_{T1-T2}=.92, t=1.97, p=.034). Pre- and post-scores were significantly correlated (r=.84, p<.001).

Lack of resources (LOR). The comparison of mean LOR scores showed an improvement between T_1 (M=3.27, SD=2.34) and T_2 (M=2.73, SD=1.91). This was not an important barrier since the average scores remained under the threshold value of 5. The t-test analysis showed a non-significant difference between T_1 and T_2, (M_{T1-T2}=.53, SD_{T1-T2}=1.73, t=1.20, p=.126). Pre- and post-scores were significantly correlated (r=.69, p=.002). Please see Table 3 for a detailed summary of the BBAQ pre- and post-results.

Table 3

Results of paired t-tests: BBAQ categories

Item	Pre-test		Post-test		*t*	*p*
	M	*SD*	*M*	*SD*		
Lack of Time	4.47	2.39	4.27	2.52	0.37	.360
Social Influence	3.27	1.91	2.73	2.25	1.26	.114
Lack of Energy	5.73	2.69	4.87	2.45	1.71	.054
Lack of Willpower	5.33	2.97	4.13	2.56	2.10	.027
Fear of Injury	0.80	1.01	1.07	1.62	-1.17	.131
Lack of Skill	1.40	1.64	0.93	1.16	1.97	.034
Lack of Resources	3.27	2.34	2.73	1.91	1.20	.126
Total Score	24.27	11.90	20.73	11.45	1.92	.038

The PI performed a reliability test to find the BBAQ Cronbach's Alpha. At T_1, Cronbach's Alpha for the BBAQ was .882 (21 items). Interestingly, results indicated that Alpha at T_1 would increase if the FOI category was removed (r=.887) from the scale. At T_2, the full scale showed a Cronbach's Alpha of .886, and similarly to before, the results indicated that Alpha at T_2 would increase if the category LOR was removed (r=.893) from the scale. However, this study was not designed to assess the psychometric properties of the BBAQ, and the PI chose to retain all BBAQ categories. The PI reported such process for transparency purposes.

Qualitative findings. Through a deductive approach to this thematic analysis, the 'parent' (main) theme *Barriers* encompassed any mention of a perceived barrier that belonged or not to the BBAQ measure. The codes were then placed in 'child' (sub) themes following the seven categories that compiled the measure. Please refer to Table 4 for the full list of themes and brief description.

Table 4

Parent and Child-themes for Deductive and Inductive Approaches

Deductive	*Description*
Barriers	Any mention of a barrier belonging or not to BBAQ categories.
LOT	Participant suggested that time either prevented or limited PA.
SI	When a person or group reduced or prevented participation in PA.
LOE	Any suggestion that energy was a limiting factor for PA.
LOW	Participant failed to execute a plan to be PA for no known reason.
FOI	When the risk of injury prevented or limited PA.
LOS	Any suggestion that perceived skill level limited the amount of PA.
LOR	Participant suggested that resources prevented desired amount of PA.
Motives	Any motives towards PA belonging or not to MPAM-R categories.
I&E	Mentioned intrinsically or extrinsically induced happiness from PA.
COMP	When change in perceived competence promoted more PA.

LOOKS	Participant levels of PA are related to self-image, or vice-versa.
FIT	Physical ability and health are the motive for PA.
SOCIAL	Any mention of change in levels of PA due to a social component.
Effort/Reward	Any mention of job-related efforts and rewards.
EFF	Participants intrapersonal and interpersonal actions related to the job.
REW	Participants perceived tangible and intangible gains from the job.
OVER	Participants' inability to disconnect from the job outside work hours.

Inductive	*Description*
Health	Any mentions related to participants' dimensions of wellness. Participants described knowledge of risks or threats to their health. Mentioned health-related benefits from engaging in PA. Described a plan or actions taken to enhance their health & wellbeing.
Burnout	Expressed feelings or symptoms of burnout. Any mention of stress that is job-related or from personal life. Described a plan or actions taken to manage their work-life balance.
Program related components	Participants described acknowledgment of program components. Extrinsic pressure to engage in PA due to commitment to others. Mentioned that an external stimulus caused action towards PA.

Note. LOT = lack of time; SI = social influence; LOE = lack of energy; LOW = lack of willpower; FOI = fear of injury; LOS = lack of skill; LOR = lack of resources; I&E = interest/enjoyment; COMP = competence; LOOKS = appearance; FIT = fitness; SOCIAL = social; EFF = effort; REW = reward; OVER = overcommitment.

Lack of time (LOT). When asked about how much time influences their amount of PA, 10 out of the 11 participants mentioned that LOT was a barrier to being physically active or to getting the amount of PA they believed they should. Two participants believed that LOT was the biggest barrier preventing them from being physically active. All these participants had a similar work schedule; however, their specific job-related demands and personal responsibilities were

the main drivers of this limiting factor. Participants who believed work was a barrier to PA mentioned they were constantly completing work-related tasks for hours after their workday was finished. Some also mentioned commuting to and from work, taking time to do work at home, and working during the weekend as the most common reasons for not reaching their PA goals. The intense pressure to continuously perform their professional duties was palpable and well described by the administrator, an African American, highly educated, wife, and mother. Theresa explained that the "schedule is so packed, it limits the amount of physical activity," and then she recalled that some days she was at the school for 12 hours or more, and stated "as an administrator, … I felt that I had more on my plate … kind of took away from how engaged I wanted to be with physical activity." She described one of those long days:

> For instance, I had a board meeting yesterday, so I did not leave [the school's name] until about 8:15 last night, so that's being here from the morning (7 a.m.) to 8:15 p.m., and I still need it to, like, run out and get a couple of groceries. So, I had to make a store run and by the time I got home, it was 9:30 p.m. Actually, I had a really bad headache, and I went immediately to bed.

Some participants mentioned home or family-related responsibilities as equally time consuming as job-related activities, especially participants with children. From helping their own children to get ready for school in the morning, to picking them up from school, to driving them to different activities to then driving them home, some participants mentioned that by the time they were home there was barely time to cook dinner and get the children ready for bed. Brian, an African American, almost 40-year-old, father of two said that he coaches his son's football team after work. He stated: "I'm not getting in the house till well after 8, sometimes 8:30 or 8:45." Some

participants mentioned arriving home at a more reasonable time, but family-related responsibilities consumed a large chunk of their time since they were the only parent in their household. For them, physical activity literally took a "back seat," said Ebony, an African American mother, highly educated staff member at the school. She later explained the long ritual that takes place in her household every weekday after coming home from work.

Social Influence (SI). This category of barriers was not as important to the sample as some of the others. Only four out of the eleven had something to share about SI being a barrier towards being physically active. When asked about the opinion of people closest to them regarding PA, participants generally referred to their immediate family members. Several participants described a tight connection between themselves and their families, which they suggested was an influence on the amount of PA they did during the day or the week. Ebony related the following "I don't think that the people that are important to me, I don't think that PA is at the top of their list of things to do." Mia is another participant who recognized the need for a more supportive close circle. Mia, a highly educated, multiracial, single female, made it clear that she would be more physically active "if there was somebody that was 100% positive and supportive, it would be easier." All these four participants identified at least one person from their close family who has been diagnosed with a chronic illness, and such fact has forced these participants to reevaluate their lifestyle choices regarding PA.

Lack of energy (LOE). This category was mentioned as a barrier by five interview participants. When explaining how they spent their energy throughout their days, participants often said that they felt most energized on Monday mornings. Although some participants, who are also parents, mentioned a second wave of energy once they left work and had to assume their role as a parent. However, they also described that, for each subsequent weekday morning, their

energy tank gradually felt less full. Some participants gave LOE direct credit for preventing them from being physically active when other barriers were not present. Selena, a Hispanic female faculty member, in her mid-50s, mother, and married, said that all her energy is spent at school, and she is too "tired to go and exercise." Another faculty member who is a highly educated single African American female recounted her routine once she gets home from work:

> And even when I do have spare time, um, it's hard to get motivated because I'm tired. So, I'll be like, you know, let me take a nap, 30 minutes, 20-minute nap. (Kristen)

Lack of willpower (LOW). The LOW category was evidently present in the responses by six participants during the individual interviews. Many of the six participants recalled having plans to exercise or be physically active during the 6-week program but fell short from accomplishing the plans because of LOW, as it was described above by Mia. The other five participants who discussed LOW were also very aware of the benefits of PA but often struggled with self-motivation. One participant described a recurring cycle of attempting to initiate a new exercise plan on Monday, which was repeatedly pushed back until Tuesday because of work-related responsibilities, then pushed back again until Wednesday, and so on. However, as explained by the participant while grinning, she finds herself waiting till the next Monday because "no one starts…in the middle of the week, right?" (Ebony) The common denominator throughout these responses was that all six participants mentioned how they could find time for PA but decided to spend that time doing something else that brought more gratification to them or required less energy. The connection between LOW and LOE was demonstrated again by one of the youngest female participants, who is African American and single staff member at the school:

> Researcher - Would it be fair to say that on those occasions when you might have a plan to go work out after you leave school, but because you reached an empty tank, you think to yourself: you know, not today I just don't feel like it. I'll go tomorrow?
>
> Lori - Yes, I do that. Often! When it comes to that, even though I know I will feel better after working out, sometimes I'm just completely exhausted and my self-motivation is all the way down and so I just don't do anything.

There was a strong overlap between LOE and LOW. Interestingly, participants' answers seemed inextricably tied together when they responded to questions related to each of these barriers. The qualitative results demonstrate how challenging it can be to decide which one of the two barriers is more or less important to participants. One perfect example was this response by Mia which was coded into both themes:

> Because, like, I could just be so stressed out (from work). I'm like, I'm just going to stay on the couch. I just need to [sit] on the couch, even though I know that exercising will also help me destress, but it's just like, you're just so exhausted and so over and so tired and just so ready to, like, throw in the towel that it's like, you know what, this Netflix show is doing it right now so I'm going to let it keep doing it right now.

Fear of injury (FOI). Only a few interview participants mentioned FOI as a barrier for trying some type of exercise or some new form of PA during the 6-week program. Overall, these participants had either experienced injuries in the past while exercising or had a story about a family member that was injured during PA. Fundamentally, the fear was connected to the consequent inability to perform as well at work since they spend most of their hours standing and moving around the classroom and school. Some participants described recent injuries or moments when they decided not to participate in PA because of FOI. Selena said that she has lower

back problems and that the last time she hurt herself was when she took the trash out. This injury caused her a nagging pain that prevented her from walking around her classroom and school as freely as she needed to. While Joy said she tries to avoid certain sports which have had negative consequences on family members. She mentioned that debilitating elbow or shoulder injuries from playing racquet sports would certainly prevent her from performing necessary tasks with her students.

Surprisingly, when responding to how the FOI prevented them from being physically active, participants often listed ways to circumvent any situation that presented risks for injury, yet they remained physically inactive. Suggesting, perhaps a connection with LOW.

***Lack of skills*.** Only a few participants felt that LOS was a limiting factor in their amount of PA. These participants described their LOS being related either to a sport or to a specific type of exercise. Joy, who previously referred to racquet sports as a form of PA acknowledged that she would have to spend a lot of time to develop basic skills, otherwise, she would probably injure herself. In another instance, Theresa explained why swimming is not an option and her fear of drowning, she said "I don't know how to swim… and no, I don't want to drown." As for a specific exercise, Marissa, an African American mother of two highly educated faculty member, said the following about a piece of gym equipment called the Smith machine:

> I really want to use it, but I'm just very hesitant on using it. I feel as though I feel like everyone would be watching me or like, I'm going to be doing it the wrong way. So, I have stayed away from it until I build up the confidence to go ask someone to show me what to do.

In a general sense, participants seemed willing to try a new physical skill, exercise program, or even a new sport, e.g., la crosse, badminton, and kickball, since they had to find newer ways to

remain physically active because of the COVID-19 pandemic. Therefore, it is possible that the homebound experience, which happened to everyone, affected participants' perspectives on learning something new.

Lack of resources (LOR). Only one participant considered LOR an important barrier to PA. During this particular moment in the interview, the PI asked a follow-up question that required the participant to think about any PA that was simple, inexpensive, and only required going outside, like walking. The response was quick, and it centered around safety concerns. Joy mentioned that she does not have any exercise equipment at home, and she could not motivate herself to follow any workout videos which prevented her from being physically active around her home. She said the following about walking:

> The area where I live is an area where there is a high crime rate. So, it's not an area where I would choose to be physically active outside by myself, and I live alone. So, that's a little bit of a barrier.

When asked the same question, other participants mentioned many ways to overcome the LOR barrier. Therefore, the PI interpreted those responses as something other than *Barriers* and coded those responses into other parent themes discussed in the following sections. Out of the 11 interviews, Marissa and Drew described minimum or no issues that prevented them from being physically active, respectively. These two participants are faculty members, highly educated, and parents of multiple children. The former is an African American woman and divorced, while the latter is a White male and married.

Research Question #2

How does participation in the TEAM PA program influence urban school employees' motivation towards physical activity?

Quantitative findings. The 30 items on the MPAM-R questionnaire addressed participants' motives for engaging in PA, sports, and exercise. Those items were divided in five categories. While keeping in mind their most common choice of PA, participants rated each statement from 1 (not at all true for me) to 7 (very true to me) in a Likert-scale. If the score was equal to or above the median for a category, it meant such category was important for the participant to be physically active, according to the MPAM-R scoring instructions. An increase in mean scores indicates an improvement, i.e., the more important the motive(s) becomes between baseline (T_1) and follow-up (T_2). The mean total scores at T_1 and at T_2 suggested that this sample was a moderately active and motived group with a T_1 mean of 146.93 (SD=29.70) and at T_2 mean of 153.67 (SD=27.42), out of a total possible score of 210. The mean total score increased between T_1 and T_2. The difference between the mean scores (M_{T1-T2}=-6.73, SD=18.12) after the 6-week program was non-significant (t=-1.44, p=.086).

Interest & enjoyment (I&E). The I&E category had a possible maximum score of 49 with a median value of 28. Mean I&E scores improved between T_1 (M=32.53, SD=8.20) and T_2 (M=36.20, SD=7.23). A paired t-test indicated that the mean significantly improved (M_{T1-T2}=3.67, SD_{T1-T2}=5.90, t=-2.41, p=.015). Participants considered I&E as an important category since both means were above the median value. I&E scores pre- and post-intervention were significantly correlated (r=.71, p=.001).

Competence (COMP). The COMP category also had a possible maximum score of 49 with a median value of 28. The comparison of COMP average scores showed an improvement between T_1 (M=31.00, SD=12.15) and T_2 (M=34.60, SD=9.69). A paired t-test indicated that this was not a significant increase (M_{T1-T2}=-3.60, t=-1.74, p=.052). Participants considered COMP an

important category since both means were above the median value. COMP scores pre- and post-intervention were significantly correlated (r=.75, p<.001).

Appearance (LOOKS). The LOOKS category had six items and a possible maximum score of 42, with a median value of 24. Mean scores improved from T_1 (M=33.53, SD=8.32) to T_2 (M=34.53, SD=7.62). The paired t-test analysis indicated that this was not a significant difference, where M_{T1-T2}=-1.00, SD_{T1-T2}=5.36), t=-.72, p=.241. Participants considered LOOKS an important category since both means were above the median value. Pre- and post-intervention LOOKS scores were significantly correlated (r=.78, p=<.001).

Fitness (FIT). The FIT category had five items and a possible maximum score of 35, with a median value of 20. Mean FIT scores decreased slightly between T_1 (M=31.60, SD=4.85) and T_2 (M=31.13, SD=5.38). The paired t-test analysis indicated that this was not a significant difference, where M_{T1-T2}=-.47, SD_{T1-T2}=2.13, t=.85, p=.206. Participants considered FIT an important category since both means were above the median value. Pre- and post-intervention FIT scores were significantly correlated (r=.92, p=<.001).

Social (SOCIAL). The SOCIAL category also had a possible maximum score of 35, with a median value of 20. Mean SOCIAL scores also decreased between T_1 (M=18.27, SD=6.71) and T_2 (M=17.20, SD=6.12). The paired t-test analysis indicated that this was not a significant change, where M_{T1-T2}=1.07, SD_{T1-T2}= 5.46, t=.76, p=.231). Participants considered SOCIAL not an important category, since both means were below the median value. Pre- and post-intervention SOCIAL scores were significantly correlated (r=.64, p=.005). Table 5 shows a detailed summary of the findings for the MPAM-R measure.

Table 5

Results of Paired T-tests: MPAM-R Categories

Item	Pre-test		Post-test		*t*	*p*
	M	*SD*	*M*	*SD*		
Fitness	31.60	4.85	31.13	5.83	.847	.206
Interest/ Enjoyment	32.53	8.20	36.20	1.86	-2.41	.015
Competence	31.00	12.15	34.60	9.69	-1.74	.052
Appearance	33.53	8.32	34.53	7.61	-.72	.241
Social	18.27	6.71	17.20	6.12	.757	.231
Total Score	146.933	29.702	153.667	27.422	-1.439	.086

At T_1, Cronbach's Alpha for the MPAM-R was .750 (30 items). Results from the internal consistency reliability analysis indicated that Alpha would increase if the SOCIAL category was removed (r=.793). At T_2, the full scale showed a Cronbach's Alpha of .800, and results indicated that Alpha would increase if the SOCIAL category was removed (r=.854). The quantitative results suggested that the SOCIAL category should be removed, but the qualitative data indicated that the social aspects of PA were a strong motivation for participants to engage in or increase their levels of PA. As with the BBAQ, the PI chose to retain all items from the original scale. The PI reported such process for transparency purposes.

Qualitative Findings. Through a deductive thematic analysis, the parent-theme *Motives* encompassed all mentions of motivation to engage in or increase levels of PA by participants. The responses were coded into five child-themes representing the categories of motives from the MPAM-R measure. Please refer to Table 4 for the full list and brief description. When asked about motivations for PA, participants discussed themes that map onto the MPAM-R categories.

All interview participants discussed motivations related to the I&E, FIT, and SOCIAL categories of the measure, and most also discussed the COMP and LOOKS categories.

Interest & Enjoyment (I&E). When participants were physically active during the 6-week program they enjoyed engaging in at least one form of PA. This theme was one of the most important motivators for participants. Participants were asked to recall what type of PA, prior or during the study, made them happy, and responses divulged a wide range of activities. Several participants mentioned enjoyment from having the time to be alone while being physically active. Due to favorable climate conditions, participants explained that it was easy to go outdoors for their favorite physical activities. Activities included: walks or hikes through neighborhoods and trails, riding their bikes with friends or children, using their kayaks or paddleboards on the lakes and rivers, playing with their children in their own yards or nearby parks, and just enjoying time alone with nature while being physically active. Eight out of the eleven participants were parents, and they expressed how much they enjoyed spending time with their children doing some type of PA. Mia explained:

> And then I think the weather kind of plays a role too. You know, like, if it's spring or summer, I'm definitely going to want to do something outside like, maybe go ride my bike with the kids, or just go for a walk in the neighborhood.

For those participants without children, the outdoors was a preferred setting to be physically active and spend time with family and friends, especially due to the pandemic enforced restrictions. Joy described her most enjoyable activities being all outdoors and with some friend or family member. While Mia and Kristen mentioned that after some of the restrictions were lifted, they enjoyed having a mix of indoor activities during colder months, like yoga and Zumba, added to their list of possible PA.

As for indoor activities, especially during the COVID-19 pandemic, several participants expressed enjoyment in using the fitness equipment they had at home (i.e., stationary bike, treadmill, etc.), or using mHealth apps for indoor workouts (i.e., yoga, resistance training with bodyweight or equipment, stretching), or just being creative with space and time available. As the mandates were lifted and gyms allowed members to return, Marissa became a "gym rat," explained how the need for socialization helped her develop a new passion. She said, "I've realized that I am making new friends" and she enjoyed new challenges like "new exercise, a game, or a piece of equipment." This theme overlapped with the SOCIAL theme, since participants described their interest in being more social while being physically active or enjoying social elements connected to PA.

Competence (COMP). In this portion of the interview, the PI asked about different sports or exercises according to the participants' past experiences and perceived set of skills, in order to see how far participants would be willing to push their comfort zone. The majority of participants welcomed the idea of trying something new. Besides extreme sports or activities that posited risks for serious injuries, the sample seemed to welcome many of the sports or games (e.g., lacrosse, kickball, volleyball, tennis, and kickboxing) discussed during this part of the interview. Without much hesitation, most of them confirmed they would jump right into the opportunity to learn a new skill. Brian recalled an event with his children, of which he was really proud and excited to share. This faculty member, who is 6'3" tall and used to play a lot of basketball and football, explained:

> A couple years back, just playing around with the kids in the gym, I picked up badminton and then, let me tell you, man, I'm the best at badminton on this side of [city], you know. I truly enjoy that.

Other participants mentioned that it was motivating to continue to exercise or be more physically active as they persisted with PA and experienced some improvement in performance or achieved previously set goals. Most participants described themselves as being competitive and overly critical of themselves. A few even mentioned being perfectionists. Participants who are parents described a secondary reason why COMP was an important motive for PA. As they placed themselves in a position of vulnerability and attempted to learn new skills as an adult, they hoped it would inspire their children to enjoy or not be afraid of the challenge of learning something new. The attitude of constantly modeling proper behavior mirrors these professionals' behaviors at school where they attempt to inspire young scholars to acquire new cognitive, affective, and psychomotor skills.

Appearance (LOOKS). Participants had mixed feelings on how to answer the question about the connection between PA and LOOKS. All participants demonstrated a positive self-image whilst answering this question and replied with certainty that they did not give much importance to anyone else's opinion regarding their LOOKS. All of them explained that they felt better about their LOOKS after exercising, even if it was "just an immediate endorphin-induced high" (Drew) post-workout. Some of the female participants in the group described their desire to revert some of the side effects of the time in confinement during the COVID-19 pandemic, such as weight gained, feeling sluggish, and body aches due to sedentarism. Lori suggested that exercise and LOOKS "go hand in hand" and "it does keep [her] motivated" once she has seen some physical changes from consistently exercising. Kristen described that her method for motivation was to visualize herself "trying to get into those clothes" she had purchased before the pandemic. Some other female professionals also mentioned their desire to increase their levels of PA to reverse physical changes that took place during a "chaotic and stressful two years" (Lori).

All male participants were married, and the connection between their motivation to exercise and LOOKS was described in terms of a desire to maintain a certain level of fitness to be physically attractive to their spouses. All three mentioned their spouses as the person of interest and whose opinion mattered the most. They stated that besides wanting to "stay in shape" for their respective spouses, they also said that being physically fit gave them a higher level of confidence, which positively influenced other aspects of their lives. Brian, the former football player said, "I think when it comes to exercising, I feel like if you stay physically fit, you look good, and you feel good." While Drew expressed, "I've always been proud of my body. And I've always worked hard." when describing his efforts to maintain his appearance.

Fitness (FIT). Participants were asked to think about the short- and long-term benefits of being physically active when answering this question about motivation. For this sample, a short-term benefit from exercising regularly was to have more energy during the day. This highly educated group of professionals understood the correlation between exercising and having more energy during the day. Interestingly, some had also mentioned lack of energy as a barrier to being physically active. Besides more energy the sample also mentioned some more personal immediate benefits from being physically active. Selena, the older female faculty, described another short-term benefit she had experienced with increased PA: reduction in chronic pain. She said: "since we have started going back to school, I feel much better. My hips don't hurt anymore." And she continued to explain that "it's because I keep moving all day long."

The eight participants that have children unanimously said that their short-term benefit was to continue to play or be active with their children. Those with school-age children mentioned that daily activities involving their children were physically demanding and that they

knew it would help to do some type of workout to increase their energy levels. Usually and pragmatically, the workout involved some activity with the children which also served the purpose of "tiring them out" (Vincent).

As for the long-term benefits, some of the participants revealed that they wanted to prevent themselves from developing any of the chronic illnesses that plagued their family members, such as cardiovascular and joint diseases, diabetes, and high blood pressure. In all cases involving parents of young children, the professionals mentioned that their motives for being physically active was to model the behavior and that would be a short- and long-term benefit to them as well as their children. It was clear that this sample of education professionals understood how influential a positive role model can be and this was one expected attitude for this study. Vincent described how important it was for him to continuously work on his flexibility and fitness whenever he could "carve out 20 minutes." Some of the participants also mentioned that "staying fit" would allow them to be physically capable of playing with their children as they grew older or with their grandchildren.

***Social* (*SOCIAL*).** When participants explained the social aspects related to their choices for physical activity, most of them joyfully expressed their interactions among family members, friends, coworkers, or new acquaintances while being physically active. Even the participants who discussed the importance of alone time during PA also revealed that having someone to exercise with was a strong motivator. Joy who lives in the unsafe neighborhood recalled that, besides kayaking alone, she and a friend "started hiking together" and that "we would do that every weekend." She explained that during the pandemic this getaway was the perfect solution for getting out of the house, following all safety protocols, and interacting with a friend. Some of the less active participants shared that same opinion and explained that "it's always cool to connect

with folks, especially when playing a sport." For the more active participants, the motivation sprung from a mix between exercising with immediate family members, with friends, and coworkers. As mentioned earlier, the weather in the southeast region of the U.S. has a favorable impact on the amount of PA for this sample, where outdoor activities can be performed year-round. This was an immense advantage during the COVID-19 pandemic to those participants that prefer PA that promote social interaction. Additionally, after the social restrictions were lifted and the city's department of parks and recreation started offering seasonal sport leagues, some participants jumped on the opportunity to combine social interaction and exercise. Mia made the following comment:

> So, I started kickball, like, right before the study, or kind of when the study started. So, that was really cool because I haven't played in like 5 years, and I also only played co-ed. So, this is an all-female thing, and they're really hardcore competitive. And so, I didn't know what I was getting myself into, but I loved it.

The PI noticed during the interviews that the social aspect of team sports or the companionship of a friend or family member during PA added enjoyment to participants' motives towards being physically active, therefore, solidifying the connection between the two categories.

Research Question #3

What are the effects of the TEAM PA program on urban school employees' job-related stress?

Quantitative findings. The long version of the ERIQ measure (22 items) addressed participants perceived job-related efforts (EFF=6 items), rewards (REW=10 items), and overcommitment (OVER=6 items). The total score for the REW scale was calculated by adding the subscales Esteem (REW-E=4 items), Promotion (REW-P=4 items), and Security (REW-S=2 items).

The PI was mainly focused on the Effort-Reward (ER) ratio which captured the participants' perceived imbalance between their work-related efforts and rewards received for those efforts. The ER-ratio was calculated by multiplying the "k" factor (1.67) by the result of individual's EFF score divided by the REW score, $ER=k*(E/R)$. A score above 1 represents more effort than reward and places the individual at a risk category for developing illnesses connected with job-related stress. Thus, a reduction in score between T_1 and T_2 indicates an improved ER-ratio. Cronbach's Alpha scores for the full measure (22 items) pre- and post-intervention were .75 and .74 at T_1 and T_2, respectively.

Effort-reward ratio (ER). The comparison of mean scores for the sample's ER ratio showed a small improvement between T_1 (M=1.13, SD=.30) and T_2 (M=1.06, SD=.35). The t-test indicated that the mean difference was not statistically significant (M_{T1-T2}=.07, SD=.32, t=.86, p=.204). This result suggested that participants perceived a better equilibrium between their job-related efforts and rewards after the 6-week PA program. Pre- and post ER ratio scores were significantly correlated (r=.54, p=.019).

Effort (EFF). EFF scale score ranged from 6 to 24, where higher score meant participants spent more time and energy towards work. A comparison of the mean scores showed an improvement between T_1 (M=18.33, SD=2.58) and T_2 (M=17.93, SD=3.15). The t-test indicated that this was not a significant change (M_{T1-T2}=.40, SD=2.80, t=.55, p=.294). Pre- and post EFF scores was significantly correlated (r=.54, p=.019).

Reward (REW). The REW scale had a range of scores between 10 and 40, and a higher score meant participants received more recompense at work. A comparison of the mean scores showed an improvement between T_1 (M=28.13, SD=5.24) and T_2 (M=29.33, SD=4.69). The t-

test indicated that this was not a significant difference (M_{T1-T2}=-1.20, SD=3.45, t=-1.35, p=.100). Pre- and post REW scores were significantly correlated (r=.76, p= <.001).

Overcommitment (OVER). The range of scores for the OVER scale was between 6 and 24, where a higher score meant that the individual was overly committed to job-related functions. A comparison of the mean scores showed a slight increase in commitment to job-related functions between T_1 (M=15.67, SD=3.66) and T_2 (M=15.93, SD=3.06). The t-test analysis indicated that this was not a significant difference (M_{T1-T2}=.27, SD=2.84, t=.36, p=.361). Pre- and post OVER scores were significantly correlated (r=.66, p=.004). Table 6 shows a detailed summary of the findings for ERIQ measure pre- and post-results.

Table 6

Results of Paired T-tests: ERIQ Subscales

Item	Pre-test		Post-test		*t*	*p*
	M	*SD*	*M*	*SD*		
Effort	18.33	2.58	17.93	3.15	.554	.294
Reward	28.13	5.24	29.33	4.69	-1.348	.100
Esteem	11.47	2.67	12.07	2.28	-1.718	.054
Security	5.80	1.21	5.73	1.16	.180	.430
Promotion	10.87	2.26	11.53	1.92	-2.000	.033
Overcommitment	15.67	3.66	15.93	3.06	-.364	.361
Total Score E/R ratio	1.130	0.299	1.061	0.352	0.855	.204

Qualitative findings. Through a deductive thematic analysis, the parent-theme *Efforts* and *Rewards* encompassed all mentions of moments, attitudes, or behaviors that could either generate or increase job-related stress or the rewards participants received. The responses were coded into three child-themes representing the subscales ERIQ measure. Please refer to Table 4 for the full list and brief description. For this topic, the PI asked three questions (one for each subscale of the measure, see Appendix C) in a semi-structured manner to learn more about participants' perspectives of the efforts applied towards their jobs and the tangible and intangible rewards received from the job. All participants ranked their frustrations related to work below student success. As expected, due to anecdotal conversations with faculty prior to the conclusion of the study, these professionals expressed their passion for the role of educators and influencers. All of them truly believed that they have and will continue to make a positive difference in the lives of underserved and underprivileged youth. The common frustrations among participants were related to their perceived efforts towards their job.

Efforts (EFF). Participants were asked to discuss any effort involved with their work during the week or weekend and any feelings attached to those efforts. The replies varied greatly because most participants were still adjusting to their work-life schedule since the restrictions related to the COVID-19 pandemic were lifted. Prior to this study, the school had recently changed its policy to in-person from online teaching. In addition, Fridays' schedule was reduced to a half-day, and teachers were allowed to stay home.

Some participants described that their morning routine required them to wake up between 4:30 and 5 a.m., either because of the long commute or having to manage their own children's schedule, or both. This type of effort might explain why these professionals do not exercise or perform any type of PA before going to work. Once at the school, a few participants explained that they were part of the group who greeted the young scholars as the parents dropped them off. Such added responsibility amounts to job-related stress for these participants because they know how important it is to be there for the scholars to ease the transition from home to school. These participants mentioned that any delay in getting to school prior to the drop-off time gives them anxiety. Particularly, two participants who were the PE teachers (and parents) said that they needed to arrive very early to set up the equipment in the gym before going to help with "bus duty and drop-off" and, at the end of the day, they needed to rush from the gym to the parking lot to help with "pick-up duties." Both mentioned that they felt an added stress from those non-teaching efforts. In fact, many participants mentioned having to fulfill different functions throughout the day that were not related to teaching their respective content, which increased the effort required to complete their jobs. As Brian described:

> That makes it frustrating, like all the time admin. is throwing different things on your plate, and a lot of times the stuff being thrown into plate has absolutely nothing to do

> with me or the content that I teach. So, it's just, it's a mental grind and it leads to a lot of stress.

When asked about the efforts related to the position they were hired to fulfill, participants had a more positive perspective since they chose such career. They felt as if they were in control of that part of their day. Interestingly, participants suggested that they would have minimum stress if their efforts were only related to their content and classroom, and they wished the profession was all about teaching. However, participants understood that the school's setting and demographics added multiple layers of problems which required them to "wear many hats." Selena mentioned that:

> It's not only the academic part that I am worried about. We have to assess all of them and all at the same time. It is very stressful, because we have to balance the emotions, the academics, and also you put that pressure on yourself as a teacher. So, we have to do many jobs. In our job, you have to be a mother, a psychologist, a nurse, etc.

Many of the other participants viewed their responsibilities overflowing towards multiple areas beyond their job description and their training, but not what was expected of them. There was a profound sense of frustration in their responses when discussing their efforts, in terms of energy, towards students and how the time the students spent outside the school would negate the progress gained while in school. They explained that for most of their students there was a disconnect between home and school. Education professionals use their pedagogical skills to better their students academically and behaviorally. Therefore, participants felt like they had to start "all over" when students returned to the school environment, especially after extended breaks.

Rewards (REW). When asked about the rewards they received from their job, participants had the flexibility to elaborate in terms of concrete or abstract, material or perceived, and

tangible or intangible. Collectively, the sample mentioned student success as their top priority and reward. This group of dedicated professionals explained that if student achievements were meeting or exceeding expectations then all the efforts listed before were well worth the energy spent. Some participants recalled several instances of when they felt well rewarded when parents, or even students, came back to recognize and to thank them for playing a part in the scholars' success, which to some meant going to college. This unified front of education professionals, from the office to the classrooms to the gym, described that the main reward they received from their job was seeing students succeed, especially when "it's changing the narrative around what's possible in urban education for black and brown children."

Some participants mentioned that rewards such as financial incentives were also important to them, even if given indirectly through free meals at the school or as gift cards. A few of the female participants commented that they enjoyed being able to wear some more relaxing clothes during "casual Fridays." Marissa even joked about the fact that it was a little unfair to her since she "is in athletic clothes most of the time" but she enjoyed the fact that she could wear a pair of jeans or khakis if she wanted. Most participants described receiving extra personal time off as a reward and they felt that was unique and valuable to them. Another reward that most participants perceived as important was the opportunity to work alongside some of their colleagues and learn from those more experienced and help others who were starting their career. Surprisingly, only one participant mentioned the salary as an important reward.

Overcommitment (OVER). When participants were asked to describe how they felt about their jobs during the non-work hours, most of the sample responded that they could not truly disconnect from their work responsibilities. Many participants explained that they felt it was impos-

sible to do a good job without working during those non-work hours. While some used the evening hours during weekdays, others preferred to work during the weekends, and a few used a mix of both. Selena recognized that she was "a workaholic." She stated that her inability to disconnect from work impacted how much sleep she had at night and that "it was affecting [her] health." Joy went as far as to say that she had not met "a good teacher who did not work during weekends" and then she added, "all the teachers on my grade level at this school…we all do work on the weekends." These comments exemplified the culture in this school and that some teachers believed that working outside normal school hours should be the norm.

However, some participants described a different approach and were able to disconnect from their jobs during the non-work hours. These professionals revealed that it took them a while to realize how important it was to them to leave work-related thoughts and actions at work. In contrast to the quotes above, these professionals seemed to be proud of themselves for having such attitude and eagerly responded that whenever they leave work and close their laptop computers, they are done being teachers and on to being a parent, a spouse, a friend, or anything else they could be unrelated to their work. A few of them cited mental and physical health as the reasons for making the decision not to work during the night or weekends. Brian disclosed that he "suffered from ventricular fibrillation," which he was unaware of, "until, you know, I pretty much passed out at work" and had to be transported to the hospital. He also found out that day that he suffered from hypertension and that he needed to manage his stress levels very closely. This experience led Brian to re-examine his overcommitment to work.

On the other hand, some of the participants with multiple children described that they had to become more efficient with their work-life balance because they needed to spend more time doing household tasks and spend more time with their families. At the end of the interviews, it

was clear that all participants understood the need for a good balance between work-related commitment and personal interests, but most fell short of finding such balance.

Inductive Analysis

The PI and a secondary coder analyzed the data separately and discussed their findings during a meeting via Webex. During the analysis of interview responses, researchers agreed on three main themes which emerged from the data: Health, Burnout, and Program Related Components.

Health

This theme emerged from all interviews throughout the data collected. All participants had something to disclose or express about their health (good or bad) because they were participating in a study about health and overall well-being. Some participants expressed positive attitudes and explained their outlook on how to continuously improve themselves health-wise. These participants tended to be more physically active than others from the sample and demonstrated an intrinsic need to do some type of PA regularly. Also, when comparing their answers to questions related to *Barriers* versus *Motives*, these participants were more engaged when discussing the latter. The trend within their responses was to relate their answers short- or long-term *perceived benefits* of PA. Participants shared circumstances when they circumvented some of the barriers brought up by the questions and still managed to exercise or be physically active. Like Brian, the faculty member who coaches his son's football team, said that he thoroughly enjoys going out on the driveway and "beating [his] son in basketball" even after a long exhausting day. Likewise, Vincent, the father of four, explained that:

> We've come to make [PA] a part of our routine. And so, every day, whether it's walking around in the yard or, you know, putting music on and dancing, it's part of our routine.

> So, I do feel like our kids enjoy it and don't see exercise as a bad thing, or a punishment, or a hard thing, more as just part of our daily routine to move our bodies and do something.

On the same positive note, some of the participants described the importance of *self-care* and how PA benefited them and those around them. These responses pointed to PA being the active ingredient in their formula for psychosocial improvements and emotional clarity. Many shared the sentiments from Marissa, a divorced mother of two and faculty member, who said, "for the short-term, PA is a therapy, allows [me] to alleviate, relieve stress and anxious feelings. I step outside my thoughts and focus on what I'm doing in the moment."

Some participants disclosed how they felt about the negative impact on themselves and loved ones of the declining health conditions some family members have been experiencing. Besides the emotional toll these participants carry, they also expressed their awareness of the *perceived threat* to their own health. A few participants described the chronic illnesses that family members have been battling against and how they wanted to do all they could to delay the onset of such illnesses or prevent them. These highly educated individuals understood that their inherited susceptibility or family-induced habits played a severe role in their future. They also understood the need for action to break the long-standing cycle and to create better PA habits within their immediate family. As Theresa mentioned that "a line of women on my mother's side…they're overweight," and her husband "has been diagnosed with diabetes and high blood pressure," she later affirmed that "I just don't want to follow down that same path." In similar fashion, Joy explained that being aware of her family's medical history has prompted her to be physically active "so that, they don't happen to me, like diabetes or that kind of thing."

Burnout

This theme emerged from conversations about barriers, efforts, and overcommitment. Like in the theme above, where participants described Health as being good or bad, here participants described opposing directions in which they were headed, either towards or away from *burnout*. The direction these participants seemed to be headed depended on how well or poorly they managed stresses in their personal or professional lives. To those participants poorly managing stress, there was a feeling of being overwhelmed by work-related responsibilities. Coincidentally, this overwhelming sensation was described by interview participants who pointed out that LOT, LOE, and LOW were important barriers to being physically active. The PI and secondary coder agreed that participants had trouble separating the different types of barriers. In total, six participants used the word stress or its derivatives (i.e., stressed or stressful) when responding to questions related to BBAQ and ERIQ. Another common denominator for these participants was the negative or sarcastic tone in their responses; hence, the emergence of this theme. Mia described how she felt about the emotional journey related to weekdays, "in the beginning, it's like 'here we go again' and at the end, it's like 'yes – thank you, Jesus, it's over."

On the other hand, there were those participants who seemed to manage their stress in a more efficient way, which steered them away from *burnout*. Most participants in this group were parents and referred to some type of PA as the main tool for managing their stress. Other tools used by this group to effectively manage stressors, especially work-related ones, were to "not bring work home" or not respond to work-related emails, messages, or calls during non-working hours. The common denominator for these participants was a better *work-life balance* and, subsequently, a more positive attitude in general. Many participants expressed a better work-life balance, including Lori, the second youngest participant and single female staff member, who

proudly said that “the weekends are always wonderful because I don’t do one thing work-related.”

Program Related Components

This theme emerged from nine of the eleven interviews, including interviews with the principal and the TEAM captain. These nine participants referred to *accountability* in many forms when explaining their thought processes related to being physically active during the study. Some described experiencing *accountability* as a form of monitoring their levels of PA as a motive to achieving the goals they set in the beginning of the study. Goal setting and establishing a plan was the first PAM sent to participants. Therefore, those participants with a competitive or “go-getter” type of personality felt as though the study became a challenge to them. Kristen, who was diligent about reporting her PA minutes said:

> I write down all my meetings and other things I have going on. So, now I'm starting to write down and, like, okay, here's a 30-minute time block or an hour. Let me make sure I prioritize that [PA]. And that has definitely helped. So, just making sure that I do whatever I set the exercise goal [to be], as many days as the goal is for the week, regardless of what day it is, that way I can still hold myself accountable.

Some participants referred to *accountability* as a notion of being dependable and supportive to others when they had a commitment to exercise together, notion delivered by PAMs via emails throughout the 6-week program. These participants suggested that being accountable to their workout partners was important to them and such responsibility served as a motivation to be physically active even when potential barriers were present. As Marissa, a single-parent mother of two, said the following when asked if having a workout partner helps stay motivated:

> It's definitely harder to let someone else down than it is to let yourself. Because if the appointment was just with myself and I don't have to worry about someone [else]… But if you have that consistent accountability partner. They're like 'we said, we were going so we need to go even if it's for 30 minutes, we still have to go.' So, it definitely helps.

Theresa recalled a moment when she overheard a conversation among staff members and that those participants described *accountability* as a two-way street and having a "workout buddy" had helped both "do more [physical] activity."

Another conceptually designed program-component that emerged from the interview responses was c*ues to action.* Some participants stated that the PAMs embedded in the weekly emails influenced them. These participants discussed how they adhered to the suggestions made during the program's first and second week and it helped them be more physically active. A few participants explained that they started recording their minutes of PA as well as having a set schedule for their bouts of PA. A few other participants described how being reminded to submit their minutes of PA at the beginning of the week pushed them to plan their workouts for the rest of the week. Mia, who posted one of the highest total numbers of PA minutes, disclosed that "this was the first time in [her] life that she had written it [minutes] down" and that recording the PA minutes helped her become more conscious about the amount of PA she was having during the week. She later described the thought process she had when devising her weekly PA goals for post-study and said, "So I'm kind of excited to see how this 20 minute 3 days a week will work for me." She then connected that information with her long-term goal of "I'm hoping that by my birthday I will be a little bit slimmer." Other participants also explained how the frequency of emails was "good and not too much" and it made them appreciate the messages within the emails instead of perceiving them as "junk."

Discussion

Elementary and secondary education professionals in the U.S. are at risk of developing chronic illnesses due to low levels of PA and high levels of job-related stress. Therefore, this study intended to describe the conceptualization of the TEAM wellness program and, subsequently, to examine the impact of the program on urban school employees' (a) barriers preventing them from being physically active, (b) their motivation towards PA, and (c) their notion of job-related stress. Drawing from HBM and BCTs theoretical framework, the researcher used the analysis of both deductive and inductive themes to help explain the numerical representation of the program's impact on participants. The integrated analysis of both quantitative and qualitative results suggests that the program had a minimum but positive impact on participants. Therefore, it is important to discuss the level of implementation fidelity before discussing data integration which follows the embedded design and the order of the guiding research questions. At the end of this section, implications and limitations are discussed.

Assessing Implementation Fidelity

A high level of implementation fidelity of a wellness program facilitates the transferability of such program to other settings since future implementers will be able to understand which components of the program work or do not work. Therefore, systematic measurement of implementation fidelity components (i.e., adherence, exposure, quality of delivery, participant responsiveness, and program differentiation) throughout the length of the intervention is recommended (Dusenbury et al., 2003; Hill & Erickson, 2019; Mihalic, 2004). Adding to the evaluation process, Carroll et al. (2007) introduced another two components to implementation fidelity, intervention complexity and facilitation strategies. Intervention complexity deals with the facilitators

and barriers to the implementation of a new program that is well defined but still complex in nature (i.e., various components; Carroll et al., 2007). Whereas facilitation strategies are those strategies put in place "to optimize the level of fidelity achieved," such as providing manuals, guidelines, and training to those delivering the program, as well as providing monitoring with feedback, capacity building, and incentives to research participants and liaisons (p. 3; Carroll et al., 2007).

At the beginning stages of the TEAM program conceptualization the PI conducted a few meetings with the school principal and one physical education teacher who had been appointed by the principal as the school's wellness coordinator. This professional was debriefed on more than one occasion about the TEAM program, its components, and their role as the TEAM captain. However, at the beginning of the new school year and as the recruiting steps for the present study were about to take place, the physical education teacher was removed from the role of wellness coordinator and replaced with a classroom teacher who had been promoted to a coordinator position at the start of the year. The PI made several attempts to meet with the newly appointed TEAM captain and the school principal, but due to the intense accumulation of duties related to the start of the new school year, such meeting happened almost four weeks after the planned start of the recruiting process. The PI planned to host an online meeting with the TEAM captain to discuss the TEAM wellness program, provide training and guidelines for the delivery of the program, and clarify any questions regarding program implementation. The only time that the PI and TEAM captain had available for the online meeting was during her lunch break. At the start of the meeting, the TEAM captain mentioned that she had been asked to monitor another teacher's classroom during her lunch break, but she had a quiet space available on one of

the corners of the room. There were occasional interruptions, but the PI delivered all the important information the TEAM captain needed to perform her role according to study's protocol. However, the PI had not prepared a manual or had time to run hypothetical simulations to assess the captain's readiness to deliver the program as it was intended.

Throughout the 6-week program implementation the PI made every effort to stay in touch with the TEAM captain and study participants. The PI followed study protocol and sent weekly emails to the captain reminding her to collect the spreadsheet with participants' PA minutes and with the content for the following week. The intent was to keep the communication channels open between the researcher and the TEAM captain without overwhelming her with too many emails. From the beginning of the study, the PI was also sending the weekly emails to participants instead of the captain because she had expressed concern in her ability to be punctual with that task. This adjustment to the protocol had to be made to ensure proper exposure of program components to participants. During the last week of the 6-week program, the PI reminded participants to complete the spreadsheet with their PA minutes and informed all participants they could retroactively record their minutes to previous weeks if needed. At the end of the sixth week as part of the study protocol, the PI announced via email that participants could participate in the individual interviews and that they had two more weeks to complete the post-study survey and submit their spreadsheet. The PI ended the collection of spreadsheets after the last individual interview was conducted and many of them were missing many entries and a few had no entries at all. Even after repeated emails and face-to-face requests, a few participants did not provide any recorded minutes of PA and the PI had to place a zero in all blank boxes.

The level of implementation fidelity was not objectively measured during the implementation of the TEAM program. There were some difficult barriers to overcome, and the PI was not

sufficiently prepared to handle them. Subjectively, all implementation fidelity components fell short of the designed level of implementation. Exposure to program components might have been the closest implementation fidelity component to follow the study design based on participants responses to interview questions.

Impact on Barriers Preventing Participants from Being Physically Active

The quantitative data suggests that the sample of urban school employees viewed three out of the seven categories of barriers as more important: Lack of Time (LOT), Lack of Energy (LOE), and Lack of Willpower (LOW) in preventing them from being physically active or achieving their PA goals. These findings were consistent with previous research with adult population (Call et al., 2019; Kulavic, Hultquist, & McLester, 2013). Although this sample saw a decrease in those three scores, which meant an improvement after the 6-week program, those scores remained relatively close to the cut-off values and did not reflect statistically significant differences. Qualitative data also suggests that participants could not clearly separate out which of those three barriers was the most influential. This helped explain the strong connection among those three categories. Furthermore, the size of the sample meant that the study was underpowered to detect between-group differences. In a similar mixed methods study with a bigger sample of teachers (Fox, 2021), LOT emerged as a theme and was identified as the stronger barrier to participants engaging in PA and having a negative impact on their well-being (p.253).

As for the other three categories of barriers: Social Influence (SI), Lack of Skill (LOS), and Lack of Resources (LOR), the pre- and post-survey mean scores showed improvements while remaining well below the threshold. Participants commonly discussed ways to overcome these three categories during their interviews, which helped explain the low survey scores. During the interviews, participants demonstrated little concern about the potential of being injured

during their favorite type of PA. This notion is supported by the low mean FOI scores at T_1 and T_2. Conversely, Fear of Injury (FOI) was the sole barrier category that experienced an increase in mean scores between T_1 and T_2.

There was another discrepancy, related to LOR, between the quantitative and qualitative results. Quantitatively, this sample considered this category as a potential barrier to being physically active, majority of participants felt 'somewhat' or 'very likely' to be more active "If we had exercise facilities and showers at work, then I would be more likely to exercise." (Item #21 on the BBAQ). This sentiment was congruent with the findings from Schultz (2018) study on schools in low-income areas and employee wellness, where LOR emerged as an 'organizational theme' and as a barrier to being more physically active. On the other hand, only one TEAM program participant described a situation when LOR was the reason preventing her from being physically active. However, even after expressing that it was not safe to walk around the neighborhood, she explained she could easily travel to a safer location if she had the energy or the right motivation.

Impact on Motivations to be Physically Active

Results suggested that the sample was moderate-to-highly motivated to engage in PA since four out of the five subscales had mean scores equal to or greater than the median score. When comparing the average scores to each subscale's maximum possible score, the FIT subscale was the most important to the sample after the 6-week program. This finding aligns with two other studies that compared motives towards PA in different age groups and found that, across all ages, FIT was more important based on MPAM-R scores (Kirby, 2019; Withall et al., 2011). There was an alignment with this study's qualitative data since participants expressed the desire to be healthy, strong, or energetic on multiple occasions during interviews.

Another quantitative finding from the present study that aligned with previous studies was that the subscale SOCIAL presented the lowest average score, indicating that it was the least important motive. As with similar studies identified above, a discrepancy emerged between quantitative and qualitative findings related to social components of PA. Although the mean SOCIAL score was the lowest in the quantitative component of the study, participants regularly discussed social benefits of PA. Participants described the desire to socialize with friends or colleagues as stronger than the feeling of uncertainty regarding the new PA environment. Which suggests that the social aspect of PA is a considerably attractive component and enough of a motive to engage in a new or different type of PA or exercise.

Due to survey and interview responses, this sample should have reported some impressive weekly minutes of PA during the TEAM program due to their high total scale scores. However, only four participants reported numbers above the recommended weekly amount of MVPA or muscle-strengthening exercise (CDC, 2019). Even though other participants mentioned being physically active during the 6 weeks, there is no evidence to show their amount of PA since they did not report their minutes according to study's protocol. This issue will be discussed later with other study limitations. All participants that reported high volume of PA scored substantially higher on FIT and LOOKS than the other subscales. Three of the four participants reported that they engage in PA on a regular basis and that they did not make many changes to their routines because of the study. These participants revealed that they were comfortable with their knowledge about exercise, felt competent in devising and executing a workout plan, and did most of their PA alone.

Impact on Participants' Notion of Job-Related Stress

Overall, quantitative evidence suggests that the TEAM wellness program had a positive impact on participants from an urban charter school in a southeastern capital of the U.S. The sample reported a non-statistically significant decrease in the Effort-Reward (E/R) ratio score which meant an improvement on their notion of job-related stress caused by the imbalance between work-related efforts and rewards. Although, recent research with American K-12 school professionals (Davis, 2021; Fitzpatrick, 2020; Fox, 2021; Hester, 2017; Hood, 2018; Schultz, 2018) have focused on the stressful characteristics of the teaching profession, none have taken the approach of comparing job-related efforts versus rewards. Furthermore, like the studies mentioned above, the goal for the present study was to help education professionals be better equipped to deal with job-related stressors and prevent the debilitating, sometimes career-ending, symptoms of burnout by promoting higher engagement with PA. Like previous studies, the in-depth knowledge gained from the conversations with participants allows for a richer understanding of educators' perspectives on the perceived benefits of a wellness program.

Most interview participants described a direct relationship between feeling better and being more productive. TEAM program participants described having more energy during the workday, staying more engaged with students during class, and being more patient with students and their parents, coworkers, and family members during and immediately after participation in the program. These benefits were similar to the benefits reported by all the studies mentioned above. In addition to these benefits, Davis (2021) attempted to correlate the benefits of employee wellness programs with student achievements. While the results of that study were not statistically significant, the researcher stated that "wellness programs help improve educator performance and student outcomes" (p.118) and suggested that the study provided a transferable

framework for future research implementation of school-based wellness programs. Although the purpose of the present study was not to measure the TEAM program's impact on student outcomes, there is an indication that when educators are less stressed, more energetic, and enjoy overall better health, their performance is improved which should lead to improved student outcomes.

This study embedded several BCTs into its design and participants' answers to interview questions revealed that some techniques worked better than others. This author is a novice researcher who is fully aware that the success of BCTs is directly related to his experience as a researcher. During the in-person recruiting presentation and recruiting email, the researcher applied BCTs 4.1, 4.2, 5.1 – 5.3, 6.2, and 10.1 (see Appendix B; Michie et al., 2013). The weekly emails containing PAMs, asking participants to report minutes of PA, and other relevant information shared in those emails were examples of BCTs 1.1 – 1.5, 2.1 – 2 .3, 2.7, 8.1, 8.3, 8.6, 15.1, and 15.3 (see Appendix B; Michie et al., 2013).

Implications

Based on this study results, there are implications for the school, district, state, and federal levels. At the school level, results of the study showed that the school principal supported the wellness program and that such support is vital to the implementation of all new initiatives. When asked if she would consider continuing with the program and recommend it to other schools' administrators, she replied "Sure. So, definitely, I would recommend it to other school leaders, and I would say firsthand that I think it would be an asset for us to continue participation." After hours of individual interviews and anecdotal findings during conversations with participants, there is a need for more school-based wellness initiatives due to increasing levels of

stress. Such increase stems from uncertainties like increasing work-related demands post-pandemic and individuals' safety concerns while at work. Local school leaders should consider this study's findings when planning and implementing wellness programs at their schools.

According to Lever et al. (2017), K-12 professionals in the U.S. are vulnerable to job-related stress and 78% of teachers feel exhausted, both physically and emotionally, by the end of the workday. Therefore, based on the findings of previous studies with similar samples to this study, policy makers should consider developing policies that aim to improve school employees' work-life balance through programs that promote the well-being of participants. Furthermore, as suggested by Lee & Hong (2011), both employees and employers benefit from the implementation of work-life balance programs. At the district or state level, this study's results suggest rewards should outweigh efforts for K-12 teachers. When school employees experience lowered levels of job-related stress, the school district experiences lower absenteeism which lowers the cost of hiring substitutes, improves student achievement (Tingle et al., 2012), decreases turnover rate, increases job satisfaction and employee engagement with peers which, both, help with increased productivity (Fitzpatrick, 2020; Hood, 2018; Brown, 2015; & Sheppard, 2011).

Finally, on a broader level, federal and state leaders could determine how and where to reallocate resources and determine if similar wellness programs could be implemented in different school systems throughout the country. Lawmakers could use the empirical data collected in this and many other recent research studies involving the American education professionals to advocate for funding for the implementation of evidence-based wellness programs in K-12 schools.

Strengths and Limitations

This study adds to the literature on the wellness of urban education professionals in that only a few studies with an intervention mixed methods design used theoretical support to frame and answer the research questions. The triangulation of the survey results with the in-depth knowledge from interview responses strengthened this study's findings allowing researchers to make educated suggestions based on minimally important changes.

However, there are some limitations to this study that the reader should take into account when considering the results. This mixed methods study aimed to take advantage of the design's strength; however, there were issues with the sampling strategy, sample size, generalizability, transferability, and lack of loyalty towards study's protocol.

Sampling Strategy

Initially, the plan was to invite multiple schools and purposively select an even number of male and female participants from different ethnic backgrounds, different age groups, and different home-life structures. For several reasons, only one school was invited to participate in the study. Participants were initially recruited as planned but due to the low adoption rate, a convenience sampling strategy was ultimately adopted. It is also important to consider that individuals who volunteered to participate in this study may have a different perspective on PA then those who did not volunteered. Therefore, this sample of school employees may not be representative of the broader American K-12 school employees or even the faculty and staff of the selected school.

Sample Size

The response rate post-intervention (n=15) was below the expected rate of 30% of survey respondents from the available population (N=100). Therefore, the paired t-test analysis was underpowered to detect statistically significant differences. While results suggested the TEAM program had a positive influence on participants, such changes were not reflected by the pre- and post-test analysis results. The number of interview participants (n=11) was also below the desired number of 15 and conveniently selected. Since there was a certain homogeneity within the group of interviewees (e.g., mostly African American females) which limits the variety in perspectives, it becomes hard to make any claims of transferability to other populations with a different makeup.

Study Protocol

There were a few issues related to TEAM captain and participants not adhering to the study's protocol. As established by the literature review, the TEAM captain, as an insider, was intended to have the role of an influencer as well as the liaison between the research team, staff, and faculty. The success of this eHealth wellness program was heavily dependent on a high level of integrity to the implementation fidelity which would have increased the 'buy-in' from school employees. Employee participation, in turn, was dependent on the TEAM captain being able to effectively promote participation amongst peers during the recruiting process and throughout the study. When asked her opinion about the wellness program and her role in it, the TEAM captain revealed that she was disappointed with the fact that other school functions prevented her from doing the job she had planned to do. She came to the conclusion that the TEAM captain role would be great for someone who can make it their 'baby' and really commit to all that the role demands.

The other issue regarding the lack of loyalty to the study's protocol was participants not reporting their weekly PA minutes. All study participants received weekly emails that contained the PAM for the week, other study-related information, and a reminder to report their PA minutes from the previous week(s). Alas, only eleven of the fifteen participants reported their PA minutes and most of the spreadsheets were missing data. The researcher sent emails to those eleven participants that submitted their spreadsheet with missing numbers asking them to verify or correct the spreadsheet. Four of those participants did not reply to the requests. Thus, the researcher was only able to correct or collect PA data from seven of those eleven participants.

Recommendations

The goals for this study were to (a) describe the conceptualization of the eHealth TEAM wellness program and (b) analyze the program's impact on urban school employees after a period of six weeks. The study adds to the current body of literature and provides useful information about implementing this or similar wellness programs in K-12 settings. Future researchers should consider the issues this study encountered during implementation when preparing for the challenges associated with wellness programs development and implementation. Wellness programs that focus on the well-being of K-12 teachers and school staff have the potential to reverse the negative effect of many variables that plague the American education system, namely: teacher scarcity, teacher retention, professional absenteeism and presenteeism, teacher high levels of stress leading to burnout, practitioner low morale and motivation, cost of hiring short or long-term substitutes, cost of training novice teachers, and cost of professional's early retirement due to ill health.

There is a piece of legislation that was reintroduced to the House of Representatives in 2019 by bipartisan efforts. The Teacher Health and Wellness Act (H.R.4221 – 116th Congress

2019-2020) suggests the director of the National Institutes of Health "shall carry out a five-year study on reducing teacher stress and increasing teacher retention and well-being by implementing and analyzing the results" of health and wellness programs (please visit https://www.congress.gov/bill/116th-congress/house-bill/4221/text?r=8&s=1 for a list of nine programs suggested by H.R.4221). Unfortunately, issues like the COVID-19 pandemic, turbulent presidential elections, and other history-making events have pulled policymakers' attention away from the Teacher Health and Wellness Act. However, this should serve as encouraging news to future research since there is a blueprint of bipartisan interest laid out with specific indicators to where research on teacher well-being should aim its efforts.

Future research should consider recruiting and sampling strategies that reduce the potential of selection bias and increase the study's generalizability by: encouraging participation of individuals with different perspectives on PA; randomly selecting education professionals from different schools, districts, or states; finding a practitioner in the school building who fully commits to the role of TEAM captain; and establishing clear and easy to implement study protocols that are seamlessly completed by participants.

The first barrier to overcome, which is to attract individuals that are sedentary or not inclined to participate in a wellness program, could be resolved by offering some reward that is more appealing to the intended population. As suggested by the Reward and Threat group of BCTs (#10; Michie et al., 2013), when research protocol involves giving incentives or rewards to participants that achieve a certain level of progress independent from starting point.

The second recommendation stated above would involve researchers using the "gold standard" of empirical research by applying a randomized control trial (RCT) to its design. This author experienced similar barriers encountered in previous research targeting school employees

(Kim & Gurvitch, 2020), which were (a) the difficult access to multiple schools with sufficient 'buy-in' from staff and faculty, (b) education professionals already overwhelmed with work-related responsibilities, and (c) lack of resources (i.e., funding and personnel). These barriers often prevent studies that focus on school employees from designing an RCT or a longitudinal study. Therefore, researchers should consider ways of establishing strong connections with schools and school districts and become a familiar face to those professionals. This would also facilitate the next recommendation of recruiting the most devoted PA advocate in the building.

Besides the vital support from the school leader, the success of a school-based wellness program is more likely to occur when there is a high level of implementation fidelity to original design of the program. Even when the TEAM captain is passionate about PA and is someone who embraces the health and wellness of coworkers as their responsibility, it becomes difficult for such individual to deliver the program as intended without proper instruction, training, and adherence to the protocol. Once the connection with the school is established, researchers should consider having conversations with school employees to determine who is the best candidate for the position of TEAM captain. The selected individual should be given a manual with clear and sequential steps to adequately help with program implementation. Some schools might already have a Wellness Champion, and ideally, that individual should receive a stipend for the services provided.

The final recommendation could be achieved through a partnership with new start-up companies that have introduced mHealth products (i.e., smart wearables) that are light, fashionable, easy to plug-and-play, and highly accurate. Use of such products would allow participants to accurately track PA without having to do so manually. A more laborious manner to maximize protocol loyalty would be for the research team to deliver PA or exercise sessions to program

participants while they are at school and collect data. Such a measure would eliminate the chances of over, under, or lack of reporting of participants' PA minutes. On the other hand, that would innately have an extrinsic impact on participants' level of PA, and potentially negate the benefits of allowing participants to choose when, where, and how to engage in PA. Additionally, there are many school districts that implemented strict access policies after recent incidents of school violence and because of the ongoing risks of the COVID-19 pandemic.

Conclusions

Most American adults, in particular education professionals, do not meet the recommended amount of PA, and live through their working years enduring dangerously high amounts of stress from various sources. During recent years, teachers and other school personnel have experienced overwhelming job-related demands and have been exposed to, directly or indirectly, some life-threatening incidents which occurred at their workplace or another school. All of that has a negative impact on the professional, who, when combined with physical inactivity, becomes highly susceptible to chronic illnesses. This dangerous combination also affects the schools, school districts, the community, and the students. Therefore, preventative measures such as the implementation of wellness programs geared to school professionals may be a short- and long-term solution. Although the study design had its limitations, the suggested wellness program in this study had a positive influence on study participants. The results may be useful to other schools in different districts or regions of the U.S. The TEAM wellness initiative is intended to help pre-K – 12 schools and school leaders address the well-being of their employees by providing a framework for the implementation and management of an on-going wellness program. This initiative has the flexibility to be modified according to the needs of the target population. Researchers should consider the author's suggestions and make necessary changes to the

TEAM wellness study to increase its generalizability and transferability. School leaders should consider adopting the TEAM wellness program, and make necessary changes as needed, to ensure school employees fight off the feelings of burnout and regain the feeling of belonging to a workplace where their overall well-being matters.

References

Abraham, C., & Michie, S. (2008). A taxonomy of behavior change techniques used in interventions. *Health psychology*, 27(3), 379.

Aldana, S., Merrill, R., Price, K., et al. (2005). Financial impact of a comprehensive multisite workplace health promotion program. *Preventive Medicine* 40(2): 131–137. DOI: 10.1016/j.ypmed.2004.05.008.

Allegrante, J. P. & Michela, J. L. (1990). Impact of a School-Based Workplace Health Promotion Program on Morale of Inner-City Teachers. *Journal of School Health* 60(1): 25–28. DOI: 10.1111/j.1746-1561.1990.tb04772.x.

Brown, T. C. (2015). Collaborative autobiography: A process for addressing educators' stress and awareness in 21st century public education.

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A conceptual framework for implementation fidelity. *Implementation science*, *2*(1), 1-9.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Hillsdale, N.J.: L. Erlbaum Associates.

Cohen, J. (2013). Statistical power analysis for the behavioral sciences. Academic press.

Connelly, L. M. (2016). Trustworthiness in qualitative research. *Medsurg Nursing*, *25*(6), 435.

Creswell, J. W., Clark, V. P., & Garrett, A. L. (2003). Advanced mixed methods research. *Handbook of mixed methods in social and behavioural research. Thousand Oaks, CA: Sage*: 209–240.

Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: are implementation effects out of control?. *Clinical psychology review*, *18*(1), 23-45.

Davis, J. (2021). *The Impact of Employee Wellness Programs on Student Achievement and Teacher-Student Relationships in Algebra 1 Classes in Title 1 Schools in Southeast United States* (Doctoral dissertation, Charleston Southern University).

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, *19*(2), 109-134.

Dusenbury, L., Brannigan, R., Falco, M., & Hansen, W. B. (2003). A review of research on fidelity of implementation: implications for drug abuse prevention in school settings. *Health education research*, *18*(2), 237-256.

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs-principles and practices. *Health services research*, *48*(6 Pt 2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Fink, A. (1995). *How to analyze survey data* (Vol. 8). Sage.

Fitzpatrick, D. (2020). *Namaste in Teaching: How Yoga Practice Affects Novice Teacher Resilience*. Texas State University-San Marcos.

Fox, H. B. (2021). *A Mixed Methods Item Response Theory Investigation of Teacher Well-Being* (Doctoral dissertation, The George Washington University).

Gold, Y. & Roth, R. A. (2013). Teachers Managing Stress & Preventing Burnout. Routledge. DOI: 10.4324/9780203209899.

Greenberg, M. T., Brown, J. L. & Abenavoli, R. M. (2016). Teacher stress and health effects on teachers, students, and schools. *Edna Bennett Pierce Prevention Research Center, Pennsylvania State University*.

Gresham, F. M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School psychology review*, *18*(1), 37-50.

Hasson, R. E., Beemer, L. R., Ajibewa, T. A., & Eisman, A. B. (2021). Adapting the InPACT intervention to enhance implementation fidelity and flexibility. *Prevention Science*, *22*(3), 324-333.

Hester, N. N. (2017). *Yoga and Teacher Stress: An Examination of a Workplace-Based Yoga Practice on the Perceived Stress of Elementary School Teachers*. Edgewood College.

Hood, J. M. (2018). *Nourish to Flourish: Strengthening Social Emotional Wellness of Teachers to Mitigate Stress, Enrich Engagement, and Increase Efficacy: An Evaluation Study* (Doctoral dissertation, University of Southern California).

IBM Corp. Released 2017. *IBM SPSS Statistics for Windows*, Version 25.0. Armonk, NY: IBM Corp.

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health education quarterly*, *11*(1), 1-47.

Johns, G. (2009). Absenteeism or presenteeism? Attendance dynamics and employee well-being. In *The Oxford Handbook of Organizational Well Being*.

Kim, G. & Gurvitch, R. (2020). The effect of sports-based physical activity program on teachers' relatedness, stress, and exercise motivation. *Health Education Journal*.

Kirby, J.B. (2019). Together We Move: Exploring Belonging, Basic Psychological Need Satisfaction and Motivational Factors in a Socially Structured University Physical Activity Program.

Kuhn, A., Stoepker, P., Dauenhauer, B., & Carson, R. L. (2018). Comprehensive school physical activity program (CSPAP) research to practice literature review. Washington, DC: Active Schools.

Kulavic, K., Hultquist, C. N., & McLester, J. R. (2013). A comparison of motivational factors and barriers to physical activity among traditional versus nontraditional college students. *Journal of American college health : J of ACH*, *61*(2), 60–66. https://doi.org/10.1080/07448481.2012.753890

Lee, S. Y., & Hong, J. H. (2011). Does family-friendly policy matter? Testing its impact on turnover and performance. *Public Administration Review*, *71*(6), 870-879.

Leonard, K. S., Mullane, S. L., Golden, C. A., Rydell, S. A., Mitchell, N. R., Koskan, A., ... & Buman, M. P. (2022). Qualitative comparative analysis of the implementation fidelity of a workplace sedentary reduction intervention. *BMC Public Health*, *22*(1), 1-11.

Lever, N., Mathis, E., & Mayworm, A. (2017). School Mental Health Is Not Just for Students: Why Teacher and School Staff Wellness Matters. *Report on emotional & behavioral disorders in youth*, *17*(1), 6–12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6350815/.

Michie S, Wood CE, Johnston M, et al. (2015) Behaviour change techniques: the development and evaluation of a taxonomic method for reporting and describing behaviour change interventions (a suite of five studies involving consensus methods, randomized controlled trials and analysis of qualitative data). Southampton (UK): NIHR Journals Library; Nov. (Health Technology Assessment, No. 19.99.) Chapter 1, General introduction. Available from: https://www.ncbi.nlm.nih.gov/books/NBK327617/

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., Eccles, M. P., Cane, J., & Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. *Annals of behavioral medicine: a publication of the Society of Behavioral Medicine*, *46*(1),81–95. https://doi.org/10.1007/s12160-013-9486-6

Mihalic, S. (2004). The importance of implementation fidelity. *Emotional and Behavioral Disorders in Youth*, *4*(4), 83-105.

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook. sage.

Miller, R. (2012). Teacher Absence as a Leading Indicator of Student Achievement: New National Data Offer Opportunity to Examine Cost of Teacher Absence Relative to Learning Loss. *Center for American Progress*.

National Center for Education Statistics (2018) Digest of education statistics. Available at: nces.ed.gov/programs/digest/d17/tables/dt17_105.40.asp (accessed 10 October 2019)

National Institute for Occupational Safety and Health (NIOSH, 1999) URL https://www.cdc.gov/niosh/docs/99-101/default.html visited on November, 2020

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, *16*(1), 1609406917733847.

Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* 55(1): 68–78. DOI: 10.1037/0003-066X.55.1.68.

Ryan, R. M., Frederick, C. M., Lepes, D., Rubio, N., & Sheldon, K. M. (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology*. 28, 335-354.

Saldaña, J. (2021). The coding manual for qualitative researchers. SAGE Publications Limited.

Schultz, N. (2018). *School Employee Wellness: Understanding Health Behaviors and Identifying Opportunities for Student and Staff Health Promotion* (Doctoral dissertation, Tufts University, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy).

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2), 63-75.

Siegrist J. (2017) Applying Occupational Health Theories to Educational Stress and Health: Evidence from the Effort-Reward Imbalance Model. In: McIntyre T., McIntyre S., Francis D. (eds) Educator Stress. Aligning Perspectives on Health, Safety and Well-Being. Springer, Cham. https://doi.org/10.1007/978-3-319-53053-6_10

Siegrist, J., Starke, D., Chandola, T., et al. (2004). The measurement of Effort-Reward Imbalance at work: European comparisons. Social Science & Medicine, 58(8):1483–1499.

Smith, M., Seagal, J., & Robinson, L. (2020). *Burnout Prevention and Treatment*. HelpGuide.org. https://www.helpguide.org/articles/stress/burnout-prevention-and-recovery.htm

Stawarz, K., Cox, A. L., & Blandford, A. (2015). Beyond self-tracking and reminders: designing smartphone apps that support habit formation. In Proceedings of the 33rd annual ACM conference on human factors in computing systems (pp. 2653-2662).

Teddlie, C. & Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. Sage.

Thomas, S, Reading, J & Shephard, R. J. (1992). Revision of the physical activity readiness questionnaire (PAR-Q). *Canadian journal of sport sciences*.

Tingle, L., Schoeneberger, J., Schools, C. M., Wang, C., Algozzine, B., & Kerr, E. (2012). An analysis of teacher absence and student achievement. *Education*, *133*(2), 367-382.

To, Q. G., Chen, T. T. L., Magnussen, C. G., et al. (2013). Workplace Physical Activity Interventions: A Systematic Review. *American Journal of Health Promotion* 27(6): e113–e123. DOI: 10.4278/ajhp.120425-LIT-222.

U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. (2015). Retrieved from https://www.cancer.gov/about-cancer/causes-prevention/risk

U.S. Department of Health and Human Services (2010). Educational and community-based programs. Available at: www.healthypeople.gov/2010/Document/pdf/Volume1/07Ed.pdf (accessed at 10 October 2019)

U.S. Department of Health and Human Services (2019). Physical activity - Objectives. Available at: www.healthypeople.gov/2020/topics-objectives/topic/physical-activity/objectives (accessed at 9 December 2019)

Withall, J., Jago, R., & Fox, K. R. (2011). Why some do but most don't. Barriers and enablers to engaging low-income groups in physical activity programmes: a mixed methods study. *BMC public health*, *11*(1), 1-13.

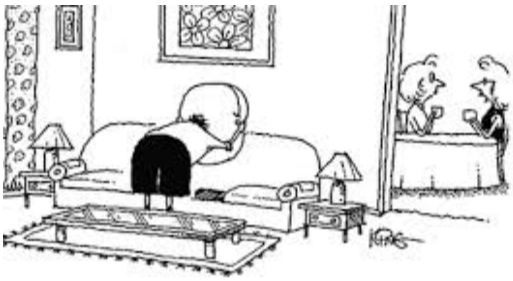
APPENDICES

Appendix A: List of Personal Accountability Messages (PAMs)

Select messages from the group that matches specific individual characteristics (gender, age, fitness level, adventurous, etc.) to send at any moment during the day or week. Insert the participants name in the beginning of the message. Images are also a good way to communicate a message. Mix and match up to three items (ex: 2 PAMs + image or 1 PAM + image)

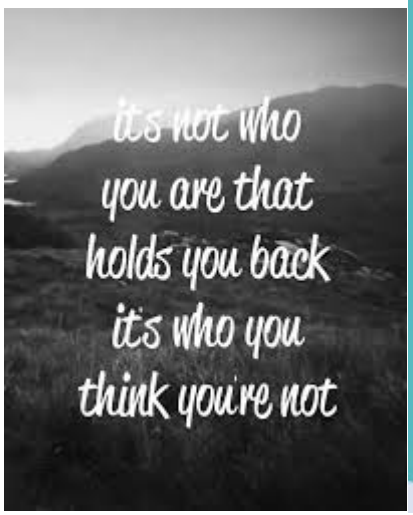
Categories	PAM
Age	
< 40	• If you think it is hard to get motivated now, imagine how your older self will feel. • We live very busy lives, we all know that, but we still need to live our lives. • It is just like a retirement plan, a little every day now will pay huge benefits later. • Enjoy your youth while you are old enough to remember it. • Why not now? • Disease prevention is the cheapest of all types of treatments. • Get your family or kids into this healthy habit. • If your 20-year-old self were to say "Damn, that's impressive!" • Do not allow the retired version of yourself to complain about you. • Ask your kids to try one of these new activities with you or come up with one of their own for you to follow.
40<X<55	• If your 20-year-old self were to say "Damn, that's impressive!" • Do not allow the retired version of yourself to complain about you. • In 10-15 years, once you realize that you could have helped yourself, what will be your excuse then. • I don't know about you, but now seems like a good time to turn back the clock. • Do you still believe that experience trumps youth? How about a youthful but experienced version of yourself then? • Ask your kids to try one of these new activities with you or come up with one of their own for you to follow.
> 55	• Whoever said "we can't turn back the clock" was a quitter. • A 'good-o-dog' can always learn a new trick. • I know it is harder when we get older, but it's impossible if we're dead. • Do you want to experiment what retired life can be or do you want your retirement to be filled of drug experiments? • If you want to tell your 20-30 younger self something, first you must listen to your 20-30 older self. • Your kids and/or grandkids are proud of you, keep it up. • Show your kids and/or grandkids your new hobby and let them in on it. • If your 20-year-old self were to say "Damn, that's impressive!"
Gender	
Female	• According to the CDC, the leading cause of death for women is heart disease, not cancer. • Women have a higher rate of developing chronic illnesses, especially heart disease, from long exposure to stress. • Physical inactivity worsens the effects of stress exponentially. • Physical activity is the most recommended preventative treatment for heart disease and cancer. • Physical inactivity is more prevalent in African American women, who are 35-55 years old, and live in low to mid-SES neighborhoods. Women in these categories have the highest risk of suffering from chronic illnesses or dying prematurely.

Male	• According to the CDC, the leading cause of death for men is heart disease. • Men have a higher rate of developing chronic illnesses, especially cancer, from long exposure to stress and lack of physical activity. • Physical activity is the most prescribed preventive and managerial treatment for heart disease and cancer. • African American men, who are 40 to 60 years old, and live in low-SES neighborhoods are at high risk to suffer from chronic illnesses or die prematurely.
# of Bouts	
0 – 2/wk	• Start with one or two short bouts (15min) per week and then increase the duration gradually as you feel better. • Find someone that can hold you accountable for your physical activity goals. • It can be more fun if you find someone to do this with, even if socially distant. • Did you try the "……" from the app yet? There is this one …. (workout, exercise, class)… I took and it was simple but with the right amount of challenge. You should definitely try it. • If you could add one more bout of physical activity this week, when would that happen? • If you are intimidated by the NTC app, try going for walk, that counts too. • If you are sore from exercising, a walk (any aerobic activity) will help move the lactic acid out of the muscles. • You are doing great and this is enough to slow down the negative effects of stress. • How about we try to do a walk or run together while connected through the NRC app? Do you want to go for a walk/run with me/us?
2 – 4/wk	• Did you try the "……" from the … app yet? There is this one …. (workout, exercise, class)… I did and it made me sweat but with the right amount of challenge. You should definitely try it. • How about we try to do a walk or run together while connected through the NRC app? Do you want to go for a walk/run with me/us? • You are doing great! At this rhythm you prevent stress from having a negative effect on your wellbeing.
> 4/wk	• Did you try the "……" from the app yet? There is this one …. (workout, exercise, class)… and it kicked my butt. With the right amount of challenge and intensity, I was surprised. You should definitely try it. • How about we try to do a walk or run together while connected through the NRC app? Do you want to go for a walk/run with me/us? • This is awesome and you are making real strides in improving your overall wellness.
General	
Goal setting	• Set a goal for the day, the week, and the month. Write it down on paper. • SMART objectives have that name for a reason. • Hey, teacher! You know better than anyone that a well-designed plan leads to achievements, so let's come up with one right now. • Think of your daily health goals as life's formative assessment on you. • No one can see better than you where you want to be.
Ask for help	• If you are looking for a workout or exercise suggestion, please let me know.
Mindfulness	• A negative attitude will keep the issue with you, while a positive attitude will move you passed the issue. It is a matter of choice.
Step it up a notch	• Let us set a new record today. • You hard work will pay huge dividends; your extra work will be the bonus you rightfully deserve.
Visualize	• If you can describe to yourself or someone else what you will feel/look/be like after 2 straight months of being physically active, then you will achieve. • There is a reason for the dreams you have, it is so you can achieve them. • If you think you can, then you might; when you believe you can, then you will.

Why not you?	• You do not have to be first or best, but I/we want you to be better because I/we care. • Have you thought about doing one of those virtual races? • Have you ever said, "Why not you?" to anyone? Right back at ya!
Finish it	• You have really worked hard, and I/we am/are impressed with the number of minutes you have logged in. • Finish strong and be proud of what you accomplished. • Think about your goals from this point forward and let this be your first step onto that Finish Line.
No excuses	• "Excuses are the NAILS that built the house of FAILURE!"
Emotional Sup.	• Tell someone every day that you are proud of them for the hard work they are putting into being a healthier version of themselves. • Send someone an encouraging message to let them know you care. • Text a simple "You are in my thoughts today" to 3 of your TEAM members today.
Charismatic	• It is true what they say, "30 minutes a day, keeps the doctor away"
Funny	 The doctor said he needed more activity. So I hide his T.V. remote three times a week.  "If hopping burns more calories than walking, and it helps you eat more salad, then OK, I approve of the Bunny Suit Diet."


Eat less CRAP:
C - carbonated drinks
R - refined sugar
A - artificial sweeteners & colors
P - processed foods
Eat more FOOD:
F - fruits & veggies
O - organic lean proteins
O - omega 3 fatty acids
D - drink water

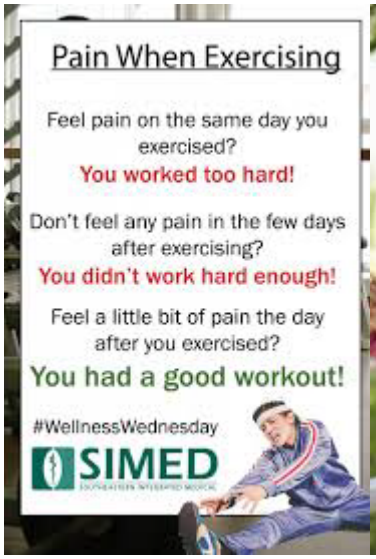

15
Daily Habits
FOR A PRODUCTIVE + HEALTHY DAY
1. Preparation is key
2. Read
3. Make lists + plan your day
4. Move your body
5. Make a smoothie
6. Organise the night before
7. Have a morning routine
8. Drink water
9. Tackling the "to-do" list
10. Get the kids involved
11. It's ok to not do it all
12. Schedule self-care
13. Clean work space
14. Healthy snacks
15. Wakeup early
WWW.DANIELLEVELLA.COM


it's not who
you are that
holds you back
it's who you
think you're not


TIPS FOR STAYING ON TRACK AT HOME
with diet and exercise
• Move your body every day
• Unplug and go outdoors
• Make a food plan
• Think moderation not deprivation
• Don't keep tempting treats around
• Get enough rest
• Find what you like and what works for you
• Work with a professional for guidance, accountability and support

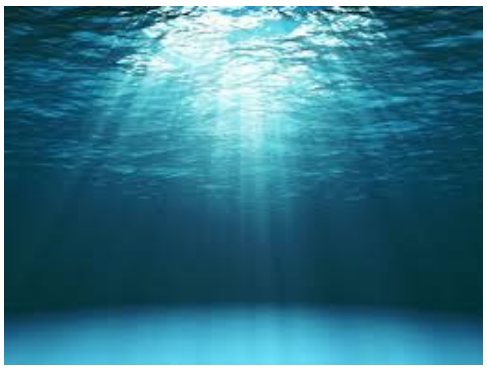

Health benefits
OF WALKING
every day

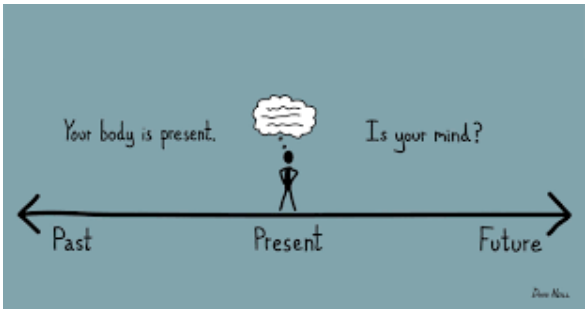

FITNESS TIPS
FOR
HEART HEALTH
1. Chat with your doctor before starting.
2. Aim for 30 minutes a day for 5 days a week.
3. Have fun! Choose an activity that makes you happy.
4. Start by going on a walk.
5. Fit in small amounts of exercise throughout your day.
6. Try strength training exercises.
7. Add stretching or yoga to get blood flowing.
8. Get creative–try amping up your cleaning routine or taking the stairs instead of the elevator.


Pain When Exercising
Feel pain on the same day you exercised?
You worked too hard!
Don't feel any pain in the few days after exercising?
You didn't work hard enough!
Feel a little bit of pain the day after you exercised?
You had a good workout!
#WellnessWednesday
SIMED

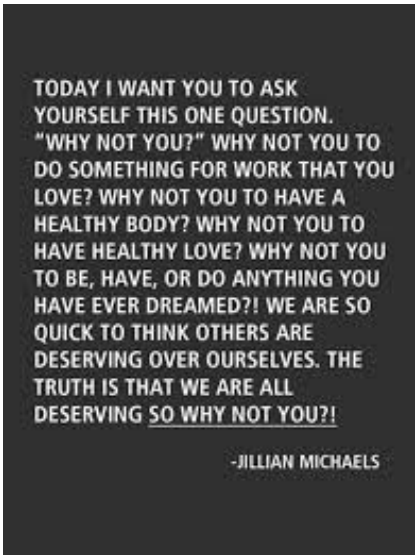

Be positive you can do it!
You are not alone
Listen to yourself
Bad days can happen
Remember:
Some activity is better than no activity
Remember:

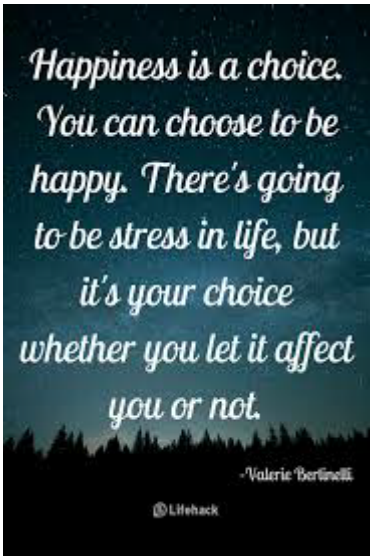

Specific
S
G
What do you want to do?
Measurable
M
O
How will you know when you've reached it?
Achievable
A
A
Is it in your power to accomplish it?
Realistic
R
L
Can you realistically achieve it?
Timely
T
S
When exactly do you want to accomplish it?




Your body is present.
Is your mind?
Past
Present
Future


THE SAME OLD THINKING
THE SAME OLD RESULTS
Things you should know about...
MINDFULNESS AND SLEEP
• Can help to create the mental space needed for sleep
• Is not relaxation, positive thinking, a trance, a mantra or forcing yourself to sleep
• Principles: non-judgement, patience, non-striving, letting go, acceptance, trust
• Nine Mindfulness principles can apply to sleep
• Best learnt through regular practice
• Can help change your relationship to sleep
• Will help you become more accepting and less distressed about your sleep


TODAY I WANT YOU TO ASK YOURSELF THIS ONE QUESTION. "WHY NOT YOU?" WHY NOT YOU TO DO SOMETHING FOR WORK THAT YOU LOVE? WHY NOT YOU TO HAVE A HEALTHY BODY? WHY NOT YOU TO HAVE HEALTHY LOVE? WHY NOT YOU TO BE, HAVE, OR DO ANYTHING YOU HAVE EVER DREAMED?! WE ARE SO QUICK TO THINK OTHERS ARE DESERVING OVER OURSELVES. THE TRUTH IS THAT WE ARE ALL DESERVING SO WHY NOT YOU?!
-JILLIAN MICHAELS


Happiness is a choice. You can choose to be happy. There's going to be stress in life, but it's your choice whether you let it affect you or not.
-Valerie Bertinelli
Lifehack

Appendix B: Protocol for individual interviews

- Qualitative data from in-depth individual interviews will be collected during the 2nd phase of this mixed method study. 2nd phase starts on the week following post-survey responses are collected.
- Volunteers for the interviews will receive an email requesting availability (day & time) so the PI can schedule the online meeting through Webex (service provided by the university).
- Once the meeting is scheduled, the participant will receive an email with a link to the meeting. There is no need to download any software prior to the meeting. It is recommended to allow 3-5 minutes for the connection to take place when using a cellphone.
- It is recommended for participants to be connected to high-speed internet to ensure sound and video quality. The PI will be in his university's office which provides the highest level of protection and speed.
- The PI will inform and request permission to record the interview. Participants will be referred to as the code name given at the beginning of the intervention.
- Semi-structured interviews will take approx. 60 minutes. Participants will have the option to interrupt or stop the interview at any point.
- The PI will inform participants that all information shared during the interview must not be discussed with anyone else to prevent data contamination and bias.
- The PI followed the list of questions (see below) related to barriers, motivation, and stress related questions during the interviews. There were some follow up questions when the PI needed to extract more meaningful details from some participants.

Questions relating to Barriers towards PA	
Lack of time	In what ways does having enough or not enough time influence how much PA you do?
Social influence	When considering people important to you, what do you think is their opinion about PA and about you being physically active?
Lack of energy	Can you describe how you spend your energy throughout the day, from a full to an empty tank?
Lack of willpower	Can you talk about what are your thoughts or thought process about exercising or not exercising?
Fear of injury	In what ways do you think you can be injured while being physically active and how does that prevent you from being active?
Lack of skill	Can you describe how PA or learning a new physical skill makes you feel?
Lack of resources	How do you feel about the opportunities you have available to exercise and be active?

Questions relating to Motivation towards PA	
Interest/ Enjoyment	What physical activities could/do make you happy before and after the TEAM program?
Competence	In what ways do you approach different challenges regarding PA, exercise, or sport?
Appearance	Can you describe how you approach exercising and looks and how you feel about what others view that same relationship?
Fitness	Can you discuss in what ways would PA benefit you in the short and long term?
Social	What are the ways you see PA, exercise, or sport helping you be social?

Questions relating to Job-Related Stress	
Effort	Can you explain the efforts involved with your job and how you feel about them?
Reward	What are the rewards that your job presents to you, in whatever order you prefer? Can you deliberate a little about each?
Overcommitment	Can you describe how you feel about your job once you wake up, after the day ends, and during the weekend?